COUNTY:	**HARDING**
LEGAL LOCATION:	**NENW 35-18N-4E**
API NO:	**40 063 05012**
PERMIT NO:	**313**
WELL NAME:	**STATE OF SOUTH DAKOTA "A" #1**
OPERATOR:	**TEXACO INC.**
PERMIT ISSUED:	**04/27/1961**
PERMIT CLOSED:	**12/07/1961**
FILE LOCATION:	**18N-4E-35 NENW**

TARGET CODES:

WELL HISTORY / CHECKLIST

PERMIT TO DRILL / INTENT TO DRILL

WELL INSPECTION / SCOUT REPORTS

OPERATOR'S TECHNICAL REPORTS / MAPS

ADMINISTRATIVE / SUNDRY REPORTS

CORRESPONDENCE

MISCELLANEOUS

WELL HISTORY / CHECKLIST

Well History

Well Name Texaco #1 State A Permit No.

Location NENW 35-18N-4E - Harding Date of Permit

Elev. API No.

Confidential From To

Logs Received

Cuttings Received Cores Received

Drill Stem Records

Cap Plug and Marker Set 10-13-6 1 - Corrected 12-7-61

Surface Restored 10-13-61

Plugging Affidavit Signed Date

Bond Released Date 12-13-61

Summary of Scout Reports

4-24-61 New location

4-27-61 Spudded 4-26-61 9:15pm

6-5-61 Drilling at 8332'

6-12-61 Drilled from 8332' to 8819'

6-15-61 Plugged

10-13-61 Mud pits filled & surface restored. Description on marker pipe not correct

12-7-61 Description on marker pipe has been corrected

PERMIT TO DRILL / INTENT TO DRILL

Form 4

State of South Dakota
State Oil and Gas Board

PERMIT TO DRILL FOR OIL AND GAS

Pursuant to Notice heretofore given and filed with said board as required by law, authority is hereby granted to ..... TEXACO INC., Box 1432, Mr. W. K. Noish, Dist. Supt. .....

of ..... Williston, ... North Dakota ..... to drill a well for (oil and gas)
City State

upon the lands situated in ..... Harding ..... County, South Dakota and described as follows:

State of South Dakota "A" #1, located on Section 35, Township 18N., Range 4 East, Harding County, South Dakota. .....

This permit is granted upon the express representations contained in said Notice of Intention to Drill and upon the following information:

The exact location of the well to be drilled is .... 660 feet South and 1981.9 feet East from the NW Corner of Section 35, Township 18N, Range 4E of the Black Hills Meridian, Harding County.

The name and address of the owner is ..... TEXACO Inc., Box 1432, Williston, N. Dak. .....

.....

The names and addresses of the operators, contractor or driller is .....

... TEXACO Inc., Box 1432, Williston, N. Dak. .....

That the names and addresses of all other persons responsible for the conduct of drilling operations are:

....

....

....

This permit is issued pursuant to Chapter 42.07 SDC Supp. and all laws amendatory, relevant or supplemental thereto and upon the express condition that the person to whom issued shall at all times be subject to the rules and regulations heretofore or hereafter promulgated by the board.

And, further, this permit is issued upon the express conditions that the ..... W. K. Noish, Dist. Supt. TEXACO, Inc. ..... shall furnish to the State Geologist, a complete set of cuttings and if available, two sets of the Geophysical Logs be furnished to the Secretary of the Oil and Gas Board, Pierre, South Dakota.

Dated at Pierre, South Dakota this ... 27th ... day of ..... April ..... A. D., 19 61

STATE OIL AND GAS BOARD

ATTEST:

Essie Kindmann .....
Secretary

Archie Gubbrud .....
Governor, Ex Officio Chairman

Permit #313

Form 4

State of South Dakota
State Oil and Gas Board

PERMIT TO DRILL FOR OIL AND GAS

Pursuant to Notice heretofore given and filed with said board as required by law, authority is hereby granted to TEXACO INC., Box 1432, Mr. W. K. Neish, Dist. Supt.

of Williston, North Dakota to drill a well for (oil and gas)
City State

upon the lands situated in Harding County, South Dakota and described as follows:

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The names and addresses of the operators, contractor or driller is

TEXACO Inc., Box 1432, Williston, N. Dak.

That the names and addresses of all other persons responsible for the conduct of drilling operations are:

This permit is issued pursuant to Chapter 42.07 SDC Supp. and all laws amendatory, relevant or supplemental thereto and upon the express condition that the person to whom issued shall at all times be subject to the rules and regulations heretofore or hereafter promulgated by the board.

And, further, this permit is issued upon the express conditions that the W. K. Neish, Dist. Supt. TEXACO, Inc. shall furnish to the State Geologist, a complete set of cuttings and if available, two sets of the Geophysical Logs be furnished to the Secretary of the Oil and Gas Board, Pierre, South Dakota.

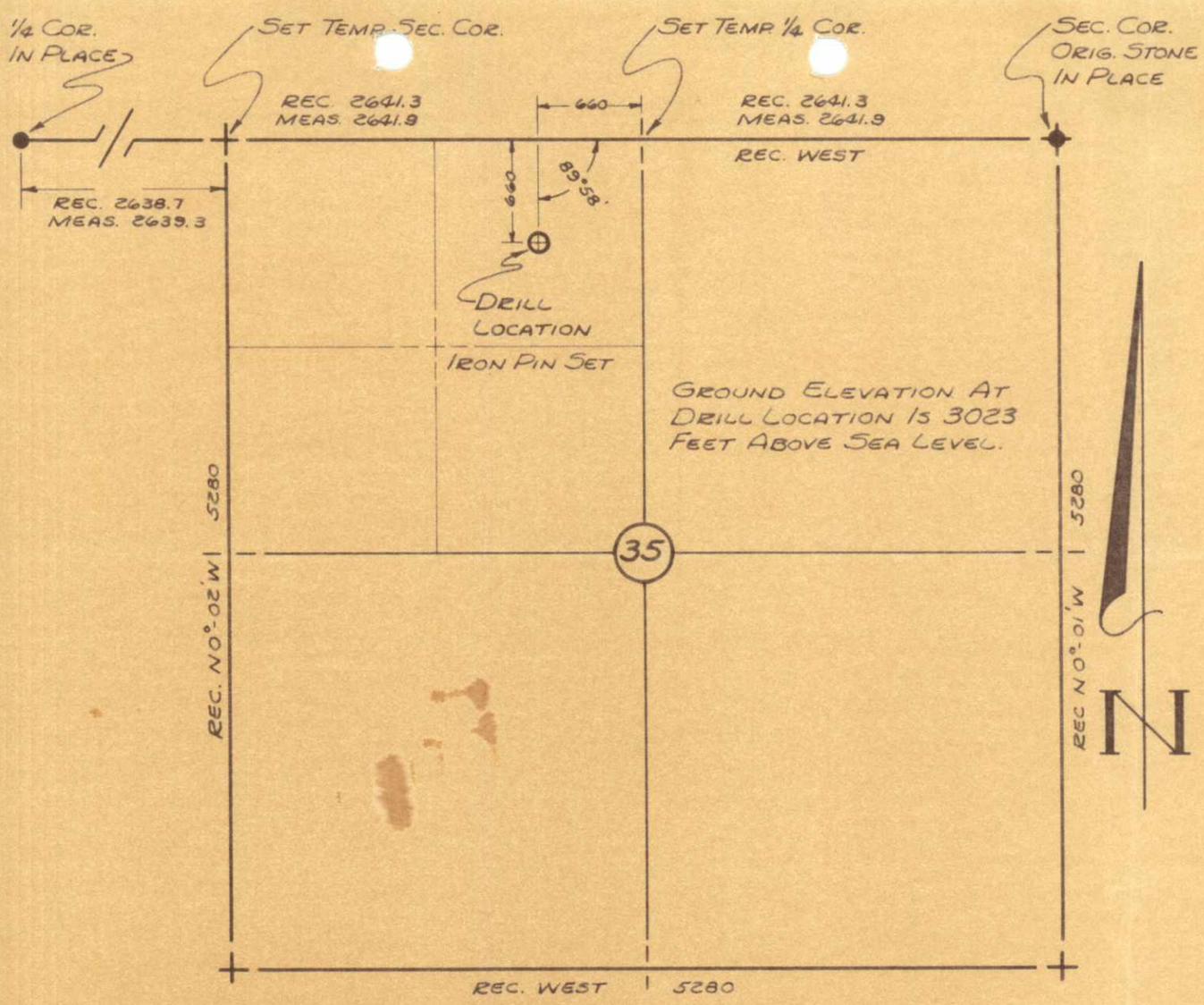
Dated at Pierre, South Dakota this 27th day of April A. D., 19 61.

STATE OIL AND GAS BOARD

ATTEST:

Essie Wildermann
Secretary

Governor, Ex Officio Chairman



● - COR. STONE IN PLACE
REC. - RECORDED ORIGINAL PUBLIC
LAND SURVEY
SCALE - 1" = 1000'

DRILL LOCATION
CENTER OF NE¼ NW¼, SEC. 35, T18N, R4E, BHM

SURVEYORS CERTIFICATE:

I, FRANK R. BRADY, REGISTERED LAND SURVEYOR, DO HEREBY CERTIFY THAT, AT THE DIRECTION OF ~~THE TEXAS OIL CO.~~ TEXACO INC., I HAVE SURVEYED AND STAKED THE DRILL LOCATION AS SHOWN ON THIS PLAT.

Frank R. Brady
REGISTERED LAND SURVEYOR

DATE: 4-7-61.

CERTIFICATE BY ~~TEXAS OIL CO.~~ TEXACO INC.

I, _____, BEING DULY AUTHORIZED TO REPRESENT ~~THE TEXAS OIL CO.~~ TEXACO INC., DO HEREBY JOIN IN AND APPROVE THE SURVEY AND PLAT.

~~TEXAS OIL CO.~~ TEXACO INC.

DATE: _____.

BY: _____

TITLE: _____

ACKNOWLEDGEMENT

STATE OF _____
COUNTY OF _____

BEFORE ME, THE UNDERSIGNED, PERSONALLY APPEARED, _____ KNOWN TO ME TO BE THE PERSON DESCRIBED IN AND WHO EXECUTED THE ABOVE CERTIFICATE.

DATE: _____. MY COMMISSION EXPIRES: _____

_____
NOTARY PUBLIC

STATE OIL AND GAS BOARD
PIERRE, SOUTH DAKOTA
APRIL 18, 1961

A meeting of the State Oil and Gas Board was held in the office of the Secretary of State at 10:30 o'clock A. M., April 18, 1961.

PRESENT: Archie Gubbrud, Governor; Bernard Linn, Commissioner of School and Public Lands; Betty Lou Larson, State Auditor; Al Hamre, State Treasurer; A. C. Miller, Attorney General and Essie Wiedenman, Secretary of State.

Mrs. Wiedenman called the meeting to order.

Mrs. Wiedenman, Secretary of the Board, presented to the Board Notice of Intention to Drill for Oil and Gas, dated April 10, 1961, filed by W. K. Neish, District Superintendent, Texaco Inc., P. O. Box 1432, Williston, North Dakota, covering the STATE OF SOUTH DAKOTA "A" WELL NO. 1, Section 35, Township 18 North, Range 4 East, Harding County, South Dakota. This well is located 660 feet South and 1981.9 feet East from the NW Corner of Section 35, T. 18 N., R. 4 E., of the BHM, Harding County, South Dakota. Said well is covered by bond in the amount of $3,000.00 executed by THE Travelers Indemnity Company of Hartford, Connecticut as Surety. It was moved by Mr. Linn that the application be approved and permit granted, which permit shall require Mr. W. K. Neish to furnish to Dr. Allen F. Agnew, State Geologist, a complete set of cuttings and if available two sets of Geophysical Logs be furnished to the Secretary of the Oil & Gas Board, Pierre, South Dakota.

Seconded by Mr. Miller.

All voted "aye" and motion carried.

Form 1

State of South Dakota
State Oil and Gas Board

NOTICE OF INTENTION TO DRILL FOR OIL AND GAS

Williston, North Dakota, April 10, 19 61

STATE OIL AND GAS BOARD

Pierre, South Dakota

In compliance with Chapter 42.07 SDC Supp. and all laws amendatory, relevant, or supplemental thereto and Rules and Regulations of the Oil and Gas Board, notice is hereby given that it is our intention to commence the work of drilling oil and gas well State of South Dakota "A" (Name, if any)

No. 1, on Section 35, Township 18N, Range 4E, Field Unnamed

County of Harding. Lease consists of N½ & SE¼ of Sec.35 containing 480 acres

Name and Address of owner of the surface of the land State of South Dakota

Name and address of owner of the well TEXACO Inc.,Box 1432, Williston, No.Dak.

Name and address of operator TEXACO Inc.,Box 1432, Williston, No. Dak.

Name and address of contractor Will advise after bid opening 4/15/61.

Name and address of driller Will advise after bid opening 4/15/61.

Name and address of any other person responsible for the conduct of drilling operations N.D. Yoast

Watford City, North Dakota

The well is 660 feet ~~North~~ South, and 1981.9 feet East ~~West~~ from the NW Corner of Section 35, Township 18N, Range 4E, of the Black Hills Meridian.
(Give location in distance from section corners of legal subdivision)

ok. B.F.

The elevation of the { ~~derrick floor~~ / ground } above sea level is 3023 feet.

We estimate that the first productive oil or gas sand should be encountered at a depth of about unknown feet.

Wildcat

We propose to use the following strings of casing, either cementing or landing them as herein indicated:

Size of Casing Inches	Weight, Lb. Per Foot	Grade & Type	Depth	Landed or Cemented
10-3/4"	40.5	J-55 8R ST&C	1000	Cemented
7" if dually completed	23 - 29#	J-55-N80 8R LT&C	± 8800	X
5½" if single zone completion	15.5#-23#	J-55-N80 8R LT&C	± 8800	X

Well is to be drilled with { rotary / ~~cable~~ } tools.

It is understood that if changes in this plan become necessary we are to notify you before cementing or landing casing.

Address Box 1432, Williston, No.Dak.

TEXACO Inc.
Name of owner, operator, driller or contractor

Telephone number GR-3-6337

W. K. Neish
Signature of operator

Dist. SupT.

WELL INSPECTION / SCOUT REPORTS

STATE GEOLOGICAL SURVEY

Scout Report

Date scouted..Dec. 7, 1961...

Designation of well...A #1 State.....

Owner.....Texaco.....

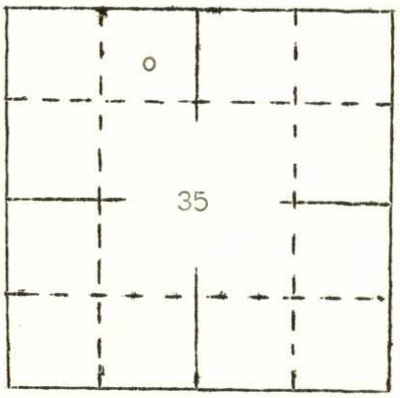
Location: Sec. 35 T. 18 N. ~~S.~~ R. 4 E. ~~W.~~

.....Harding.....**County, S.D.** **Total Depth**.....8819..... **feet**

Casing Record:

10 3/4" 1016 Ft. _____ Ft.

_____ Ft. _____ Ft.



Work in progress at time of visit:

None

Developments since last visit:

Description on the marker pipe has been corrected.

Remarks and recommendations:

Scouted by.....Earl Cox, Geologist

Approved by.....Allen F. Agnew

Allen F. Agnew, State Geologist

STATE GEOLOGICAL SURVEY

Scout Report

Date scouted. Oct. 13, 1961...

Designation of well... A #1 State .....

Owner..... Texaco .....

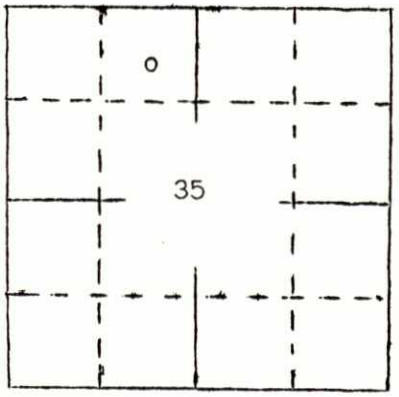
Location: Sec. 35 T. 18 N. S. R. 4 E. W.

..... Harding .....County, S.D. Total Depth.....8819..... feet

Casing Record:

10 3/4" 1016 Ft. _____Ft.

_____Ft. _____Ft.



Work in progress at time of visit:

None

Developments since last visit:

The mud pits have been filled and the surface restored.

Remarks and recommendations:

The description on the marker pipe is not correct.

Scouted by Earl Cox, Geologist

Approved by Allen F. Agnew

Allen F. Agnew, State Geologist

STATE GEOLOGICAL SURVEY

Scout Report

Date scouted..June.15..1961

Designation of well.....A-1.State.....

Owner.....Texaco.....

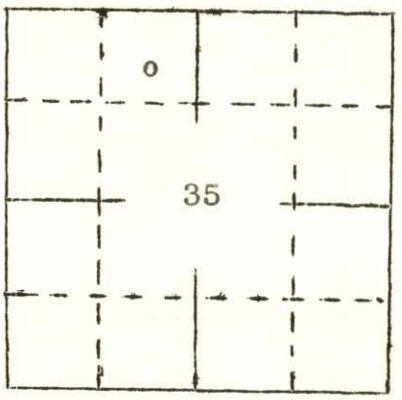
Location: Sec. 35 T. 18 N. S. R. 4 E. W.

.....Harding.....County, S.D. Total Depth.8819..... feet

Casing Record:

10 3/4 1016 Ft. _____ Ft.

_____ Ft. _____ Ft.



Work in progress at time of visit:

Well plugged as follows:

Winnipeg sand	8220-8050	50 sacks
Red River	7658-7500	45 sacks
Duperow	7205-7100	30 sacks
Minnelusa	5655-5550	30 sacks
Dakota	4100-3930	45 sacks
Bottom surface casing	1050- 840	95 sacks

Developments since last visit:

Remarks and recommendations:

All samples & Cores from this test are at the Survey office in Belle Fourche.

Mud pits will be filled immediately.

Scouted by.....Earl Cox, Geologist.....

Approved by.....Allen F. Agnew.....

State Geologist

STATE GEOLOGICAL SURVEY

Scout Report

Date scouted. June 14, 1961.

Designation of well... A-1 State

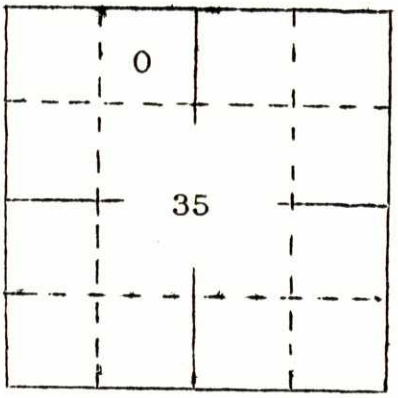
Owner..... Texaco

Location: Sec. 35 T. 18 N. ✗. R. 4 E. ✗.

..... Harding ..... County, S.D. Total Depth.. 8819 ..... feet

Casing Record:

10 3/4	1016 Ft.	Ft.
	Ft.	Ft.



Work in progress at time of visit:

Gamma Ray Laterolog & Sonic logs had been run and sent to Denver for evaluation. The Denver office is expected to order the well plugged.

Developments since last visit:

Tentative tops from logs: Deadwood-- 8300(?)
Precambrian-- 8758(?)

Remarks and recommendations:

Scouted by.... Earl Cox, Geologist

Approved by.... Allen F. Agnew
State Geologist

STATE GEOLOGICAL SURVEY

Scout Report

Date scouted..June 12..1961

Designation of well.....A-1 State.....

Owner.....Texaco.....

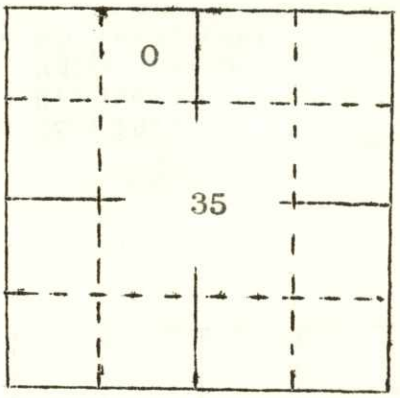
Location: Sec. 35 T. 18 N. S. R. 4 E. W.

.....Harding.....County, S.D. Total Depth. 8819..... feet

Casing Record:

10 3/4 1016 Ft. _____ Ft.

_____ Ft. _____ Ft.



Work in progress at time of visit:

Driller was trying to free a stuck bit. The old bit that was replaced was under gauge.

Developments since last visit:

Drilled from 8332' to 8819'

Remarks and recommendations:

The company geologist thinks they may have reached the Precambrian but plans to drill ahead to make sure.

(the earliest division of geological history)

Scouted by..... Earl Cox, Geologist

Approved by.....Allen F. Agnew.....

Allen F. Agnew, State Geologist

STATE GEOLOGICAL SURVEY

Scout Report

Date scouted..June.5..1961.

Designation of well....A-1 State.....

Owner.....Texaco.....

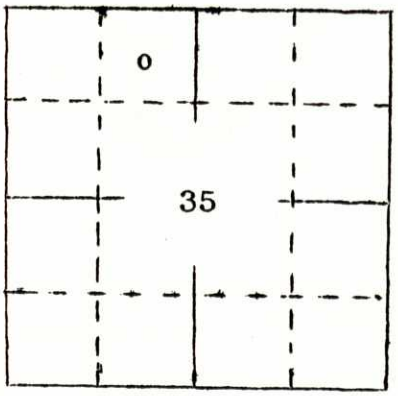
Location: Sec. 35 T. 18 N. S. R. 4 E. W.

.....Harding.....County, S.D. Total Depth...8332..... feet

Casing Record:

10 3/4 1016 Ft. _____ Ft.

_____ Ft. _____ Ft.



Work in progress at time of visit:

Drilling at 8332'

Developments since last visit:

DST #5 (8120-8180) open 15 min.; initial shut in 45 min.; tool open 3 hours; final shut in 1 hour. Recovered 200' drilling mud; 400' muddy salt water, 7450' clear salt water. SIP 3525-3550; FP 3525-3525; HP 4610-4520. Temp. 190°.

Remarks and recommendations:

Core #6 (8124-8158) Core had strong odor, but no gas was detected. Odor may have come from diesel drilling fluid.

Scouted by....Earl Cox, Geologist.....

Approved by....Allen F. Agnew.....

State Geologist

STATE GEOLOGICAL SURVEY

Scout Report

Date scouted..May 31, 1961.

Designation of well.....A-1 State.....

Owner.....Texaco.....

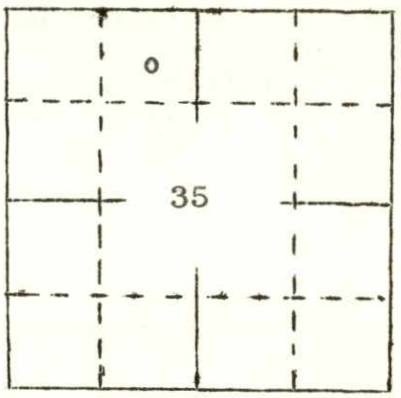
Location: Sec. 35 T. 18 N. S. R. 4 E. W.

.....Harding.....County, S.D. Total Depth..8158..... feet

Casing Record:

10 3/4 1016 Ft. _____ Ft.

_____ Ft. _____ Ft.



Work in progress at time of visit:

Core #6 (8124-8158) was being pulled.
Sample tops: 8016 Winnipeg Shale
8122(?) Winnipeg Sand

7595-7650: Gas detected at this interval and Samples had oil shows.

Developments since last visit:

DST #3 (7519'-7579') Open 15 min: initial shut in 45 min; tool open 3 hours; Final shut in 1 hour. Recovered 300' slight gas and water cut mud; 270' mud cut salt water; and 795' salt water. SIP. 3700-2845; FP 365-645; HP 4255-4180

Bottom Hole Temp: 226°.

~~Remarks and recommendations~~:

DST #4 (7590'-7615') intervals open and shut same as DST #3. Recovered 312' muddy saltwater: 1150' Salt water. SIP 3365-3255; FP 150-645; HP 4330-4295.
Bottom Hole Temp: 231°.

Scouted by.....Earl Cox, Geologist.....

Approved by.....Allen F. Agnew.....
State Geologist

JUN 1961

STATE GEOLOGICAL SURVEY

Scout Report

Date scouted..May.25,..1961.

Designation of well....A-1 State.....

Owner.....Texaco.....

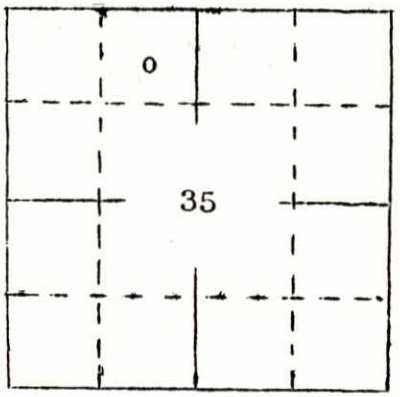
Location: Sec. 35 T. 18 N. S. R. 4 E. W.

.....Harding.....County, S.D. Total Depth...7579..... feet

Casing Record:

10 3/4" 1016 Ft. _____ Ft.

_____ Ft. _____ Ft.



Work in progress at time of visit:

At 7579' preparing to DST top of Red River.

Sample tops:

Interlake	7240 (?)
Red River	7520

Developments since last visit:

Core #3 7240-7271, Rec. 28'. Core had two faint cuts. Most of core was sent in for analysis and will be returned directly to Vermillion.
Core #4 7510-7538 (Stoney Mt.-Red River) Rec. 26' No shows.
Core #5 7538-7579. Had several faint cuts.

Remarks and recommendations:

DST #2: Open 15 min., initial shut in 45 min., tool open 3 hours; final shut in 1 hour. Recovered 6055' of salty water. Water would probably have flowed if left open one more hour. Sip 3270-3255; FP 2570-2665; HP 4105-4070.

Scouted by.....Earl Cox, Geologist.....

Approved by.....Allen F. Agnew.....

Allen F. Agnew, State Geologist

STATE GEOLOGICAL SURVEY

Scout Report

Date scouted.....May 21, 1961.....

Designation of well....#1 State A.....

Owner.....Texaco.....

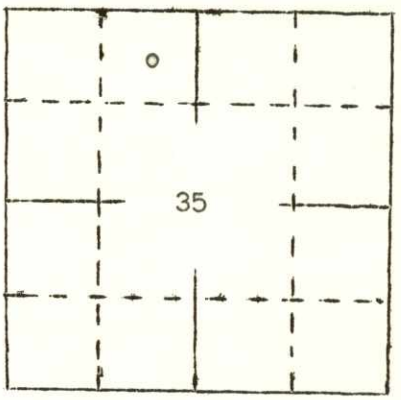
Location: Sec. 35 T. 18 N. ~~S~~. R. 4 E. ~~W~~.

.....Harding.....County, S.D. Total Depth.....7200..... feet

Casing Record:

10 3/4" 1016 Ft. _____ Ft.

_____ Ft. _____ Ft.



Work in progress at time of visit:

Drilling at 7200'
Sample tops:

Mission Canyon	MC 3 -	6338
Lodgepole		6600(?)
Duperow		7113(?)

The Mission Canyon had several scattered and poor oil shows with good porosity.

Developments since last visit:

Cored 7125-7184, recovered 59'
DST # 1, 7109-7184. Open 15 minutes; initial shut in 45 minutes; tool open 3 hrs; final shut in 1 hr. Recovered 465' of muddy salt water; and 1170' salt water (14,000PPM)

ISI	3140	IFP	195	IHP	3955
FSI	2930	FFP	690	FHP	3895

Remarks and recommendations:

Scouted by.....Earl Cox, Geologist.....

Approved by.....Allen F. Agnew.....

Allen F. Agnew, State Geologist

313

STATE GEOLOGICAL SURVEY

Scout Report

Date scouted...May 16, 1961

Designation of well...#1 State A

Owner...Texaco

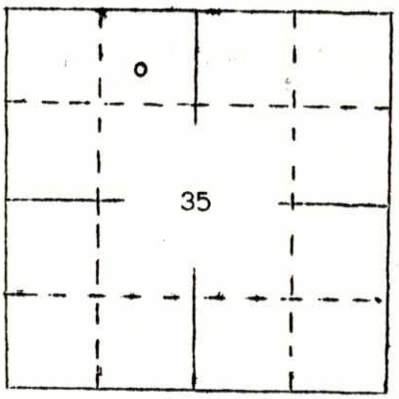
Location: Sec. 35 T. 18 N. S. R. 4 E. W.

...Harding...County, S.D. Total Depth...6202... feet

Casing Record:

10 3/4" 1016 Ft. _____ Ft.

_____ Ft. _____ Ft.



Work in progress at time of visit:

Drilling at 6202

Developments since last visit:

Drilled from 5103-6202'
The Minnelusa sands were tight and had no shows.

Remarks and recommendations:

Sample tops:

Minnekahta	5395'
Opeche	5438'
Minnelusa	5550'
Charles	6004'

Scouted by...Earl Cox, Geologist

Approved by...Allen F. Agnew

Allen F. Agnew, State Geologist

STATE GEOLOGICAL SURVEY

Scout Report

RECEIVED MAY 1961 SECRETARY OF STATE

Date scouted....May 5, 1961....

Designation of well....# 1 State A....

Owner....Texaco....

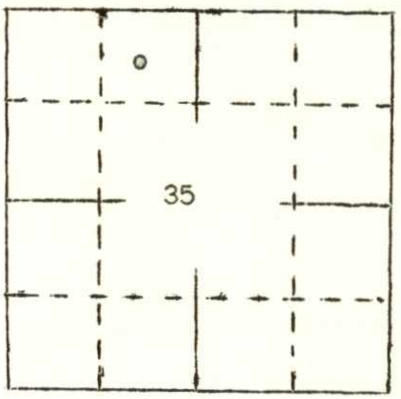
Location: Sec. 35 T. 18 N. S. R. 4 E. W.

....Harding....County, S.D. Total Depth....5103.... feet

Casing Record:

10 3/4" 1016 Ft. _____ Ft.

_____ Ft. _____ Ft.



Work in progress at time of visit:

Drilling at 5103' in "red beds"

Developments since last visit:

Cored 3644 - 3695 - Recovered 48'. Sand was water wet, no shows.
Drilled 3695 - 5103
Ran E log, Induction log, and Microcaliper logs at 4589'.

Remarks and recommendations:

Log tops:	feet		feet
Eagle	1466	Graneros	3106
Niobrara	2443	Newcastle	3641
Wall Creek	2616?	Skull Creek	3689
Carlile	2716	Dakota	3960
Greenhorn	3106	Jurassic	4136

Sample top -
Piper 4630

Scouted by....Earl Cox, Geologist....

Approved by....Allen F. Agnew....

Allen F. Agnew, State Geologist

STATE GEOLOGICAL SURVEY

Scout Report

Date scouted.. May. 1.. 1961..

Designation of well.....#1.. State A.....

Owner.....Texaco.....

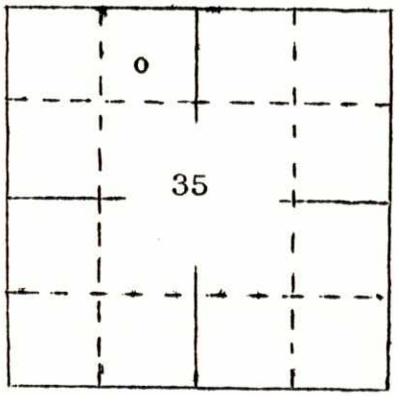
Location: Sec. 35 T. 18 N. S. R. 4 E. W.

.....Harding.....County, S.D. Total Depth....3655.... feet

Casing Record:

10 3/4" 1016 Ft. _____ Ft.

_____ Ft. _____ Ft.



Work in progress at time of visit:

Coring at 3655. Will test if core has oil show.

Developments since last visit:

Drilled from 648-3644
Cored from 3644-3655
Set 1016' of 10 3/4" surface casing using 550 sx of cement.

Remarks and recommendations:

K.B. Elevation= 3038'
Texaco Geologist on location: Glen Sorensen
Sample tops Niobrara 2410
Greenhorn 2950
New Castle 3610

Scouted by.....Earl Cox, Geologist.....

Approved by... Allen F. Agnew .....

Allen F. Agnew, State Geologist

STATE GEOLOGICAL SURVEY

Scout Report

Date scouted 10:00 AM April 27, 1961

Designation of well A 1 - STATE

Owner Texaco

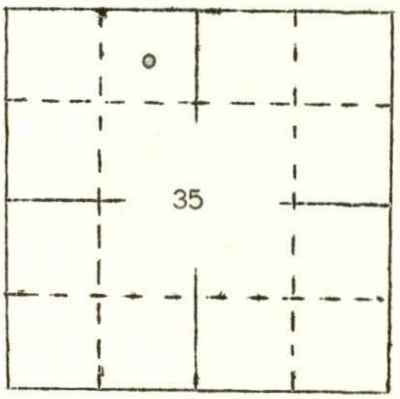
Location: Sec. 35 T. 18 N. S. R. 4 E. W.

Harding County, S.D. Total Depth 648 feet

Casing Record:

0 _____Ft. _____Ft.

_____Ft. _____Ft.



Work in progress at time of visit:

Drilling at 648'

Developments since last visit:

Spudded at 9:15 PM 4/26/61

Drilled from 0 - 648'

Remarks and recommendations:

Nine DST's and 14 cores will be taken.

Scouted by Earl Cox, Geologist

Approved by Allen F. Agnew

Allen F. Agnew, State Geologist

STATE GEOLOGICAL SURVEY

Scout Report

Date scouted April 24, 1961

Designation of well A #1 State

Owner Texaco

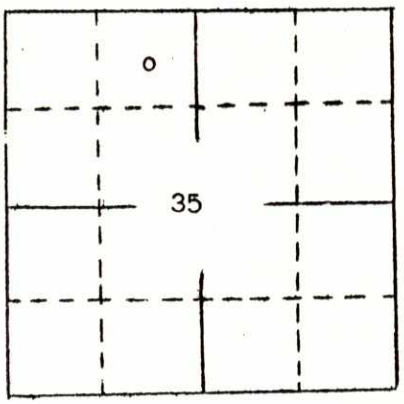
Location: Sec. 35 T. 18 N. S. R. 4 E. W.

Harding County, S. D. Total Depth 0 feet

Casing Record:

0 Ft. Ft.

Ft. Ft.



Work in progress at time of visit:

Rigging up rotary tools.

Developments since last visit:

Remarks and recommendations:

Drilling Company - Gabe McCall Drilling Company, Box 2068, Casper, Wyoming

Pusher - Clayton Williams, Room 2, Cactus Motel, Buffalo, South Dakota

Scouted by Earl Cox, Geologist

Approved by Allen F. Agnew

Allen Agnew, State Geologist E.S.

Texaco #1 State A, Harding (

660S, 1980E of NW/c (NENW) 35-18N-4

GR 3-6339 Texaco, Inc., Box 1432, Williston
N. D. Yoast, Watford City, N. Dak.,
Drlg Foreman

Gabe Mc Call Drlg Co., Box 2068,
Casper.

Clayton Williams, Pusher, Cactus
Motel, Buffalo.

5038 KB
Elev. 3023 GL Permit #127/61

TD 7850

1-17-61

Rinehart reported loc

1-26-61

Buffalo Times Herald reported loc.

1-27-61

PI reported loc.

1-24

Con scouted. No soap.

2-20

No pits yet.
Call Ray Harrison at the
& tell him about
contractor.

Texaco #1 State A

5-15

Ready to go in abt 2 wks, says Shelia Meake

4-3

Harriet Heri says rig will come from Hovde well in Williams County in a couple of weeks.

4/24

Yoast says ready to make hole. Cox says OK to dig surf & set 1000 ft of 10 3/4, but not to drill out below. Will use 560 sx

4/27

@ 648,
Spud 4/24/61,
Will take 9 DSTs and 14 cores

5/1

Cox phoned on 4/27 set 1016 ft of 10 3/4 w 550 sx. Planned to drill out Apr. 28.

5/1

Cox scouted @ 3655, Corning.

Drilled to 3644
Cored 5644 –
Set 1016' of 10¾" W55055X

Niob. 2410
Gnh 2950
Newc 3610

5/2

Zimmerman (Philips card) right that Texaco cored 47' and it was wet, so no DST.

Drlg plan

Je	4100		1 DST
Mc	5510	1 core	2 DST
Mad	6050		1 DST
MC 3	6290	1 core	"
Dwp	7080	"	"
Int	7210	"	"
SMt	7350		"
RR	7500	2 cores	3 DST
Win	8000	1 core	1 DST
Dead	8407	"	"

5-5

@ 5703 cut Fish

Cored 3644-95. Rec 48. Sd wtr wet, N.S.

Ran E-Log, Induction log, Micro-cobipertog @ 4589.

Log tops

Eagle	1466
N. Fk	2443
Wall Cr	2616??
Carl Sh	2716
Grham	3106
Gr Nam	3106
Neva	3641
SkCr	3689
Dak	3960
JR	4136

2973

2960 PI

5/5

PI says

Cored 3644-95, rec.

10' sh

10' sd, good por, looks wet

3' sh

7' sd, sty, wet

4'sh
12' sd w/sh stks, wet
2' sd, sty, wet

5/12

@ 6202
Mi sds tite, NS.
Spl tops
MK 5395
DJC 5438
MC 5550
Chr 6004

Paper 4630 PI

5/17

PI says @ 6918'

5/19

PI says coring @ 7138'
Top MC (Sd pay) @ 6338'
Entry 6402'.

5/21

Cored 7125-84. Rec 59'
DST #1 7109-84. Open 15 min;
ISI 45 min; final open 3 hrs, FSI
1 hr. Rec 465' MSW, 1170' SW
(14,400 ppm). ISIP 3140 FSIP 2950
IFP 195, FFP 690, IHP 3955
FHP 3895

Drlg @ 7200
Spl tops MC3 6338,
Ledge 6600, 6603 PI
Dup 7113?.
MC had several scatt & poor
oil shows w. good pores.

5/23

PI says drlg @ 7481

Est RR top (AFA) - based on
Richfield #1 State

	Int	Top	RR	
Kg	4547	2975	7522	X
Knc	3882	3641	7523	X
Blaylock	3532	3960	7492	
Spb Mtn	2128	5395	7523	X
Chas	1528	6004	7532	
MC	1159?	6338	~~7497~~	
	~~819~~		7419	
Ledge	~~793~~	6600?	~~7343~~	
	367		7482	←
Dup	~~269~~	7113?	~~7382~~	

5/24

PI says coring below 7517 ft

5/25

@ 7579 prep to DST top RR.

Spl tops

Interlake 2240.? 7218 PI

RR 7520

Cored 7240-7271 Rec. 28'. Core had 2 faint cuts (Most of core sent in for analysis & will be sent direct to Vernm).

Cored 7510-38 (SMt-RR) Rec 26' NS

Cored 7538-79 Several faint cuts

DST: 7221-71 (PI) Open 15 min IS 45 min Open 3 hrs, FSI 1 hr. Rec 6055' SW. Water would prob have flowed if left open 1 more hr.

SIP 3270-3255

FP 2570-2665

HP 4105-4070

SJ 26

PI.

DST. Rec. 300' Gas, 270' GOSW, 795' SW

Drlg below 7585'.

5-31

Cox scouted
Pulling core 8124-58

Spl tops Winsh 8016
win sd 8122?

7595-7650 - Gas. Oil shows in spls.

DST #3 (7519-79) Op. 15 min, ISI 45 min, open 3 hrs. FSI 1 hr. Rec 300' slt G+WCM, 270' MCSW, 795' SW. SIP 3700-2845. FP 365-645. HP 4255-4180. B.H. Temp. 226°.

DST #4 (7590-7615) Open & shut same as #3 Rec 312' MW, 1150' SW SIP 3365-3255 FP 150-645, HP 4330-4295. B.H. Temp 231°

5/31

PI says est TD 8400 Win.

6/1

PI says hole will most go to

Pt @ 8580, TD.

@ 8180 now

Ski shows in core 8124-58, Prep to DST. Rec was sand w. fair to poor poros.

6/5

@ 8332

Core 8124-58. Strong odor, but no gas — may be diesel drlg fluid

DST #5 (8120-80). Open 15 min SI 45 min, open 3 hrs, FSI 1 hr. Rec 200' M, 400' MSW, 7450' clear salt W. SIP 3525-3550, FP 3525-3525, HP 4610-4520 Temp 190°.

6/7

Cox called. Will go to PE

6/9

PI says lost circ @ 8600. Trying to regain it.

6-12

Bit stuck @ 8819. Good. Think it is Pt, but will drill ahead to make sure

6-14

Cox Scouted

X-ray, Lateralog, sonic run + sent to Denver for interp. Expect Denver to order plugging.

Tentative log tops

Dean 8300?

PC 8758?

6/15

Called Carol Cox

Earl is at rig, plugging it.

6-15-

Cox scouted

TD 8819

Plugged	8820-8050	50 SX
Wingate	7658-7500	45
Red R	7205-7100	30
Dup	5655-5550	30
M	4100-3980	45
Dakota		
Base surf	1050-840	95

All spls + cores at B/F of 7 SDGs.

Pits will be filled right away.

Texaco #A-1 State 125-7181

NENW-35-18N-4E
Harding Co.

3026 Gr.
Elev 3038 K.B. 4-26-61
TD ~~7200 RR~~ Permit
8800 Deadwood

Texas, Inc.
Professional Bldg, Bismarck, N.D.
Clayton Williams 375-3391 Buffalo.
Located 1-23-61
No pits - Could not find anything.
Chart list from N.D.

N.D. Yoast - Drilling Foreman.
W Ballenbaugh - Geol.
W K Nevish - Dist. Supt.
Greenfield 3-6337
Williston, N.D.

4-21-61
Called Fiscus - Permit granted
Clearing for Loc.

Rig-Go to McCall
Texas, Inc. - Nesbit - Rushes
Corner, 12 mi. 2 to 3 mi. Expl.
Test Deep
24 DST
Contract, Bin type.
Go ahead with
Loc. 990' fr N & W lines
Section, Twp & Co. Not
Road
94-24-61
Rokt.
4-26-61
Yoast Called - Bond has
not been Rec. but J told him
to go ahead & set Surface
Hole @ 10 3/4 @ 560 w/ 400
sx - Hol. Will Spud 9 a.m.
& Keep in Set Surface Pipe
in Morning.

1016 - 10¾" Csg 40½ * K55.
550 sx Pozmix - 1st 300 4% gel 3% cacl.
250 sx 3% cacl.

Ran 4 Cen. & Cat

24 Cen. + 14 Cent.

@ 4600 with log. mud at
approx 2 Diesel fuel

Ran DST #1 on sample.
Had Considerable -
about 45 - depth drilling time.

@ 6548' at 10:30.
Called Williams phone
375 - 2291
Spudded at 9:15 4-26-61

Cement Started 4-26-61
Plug down at 6:30 4-28-61
Plug & Cement Circulated
to Pit 6-28-61

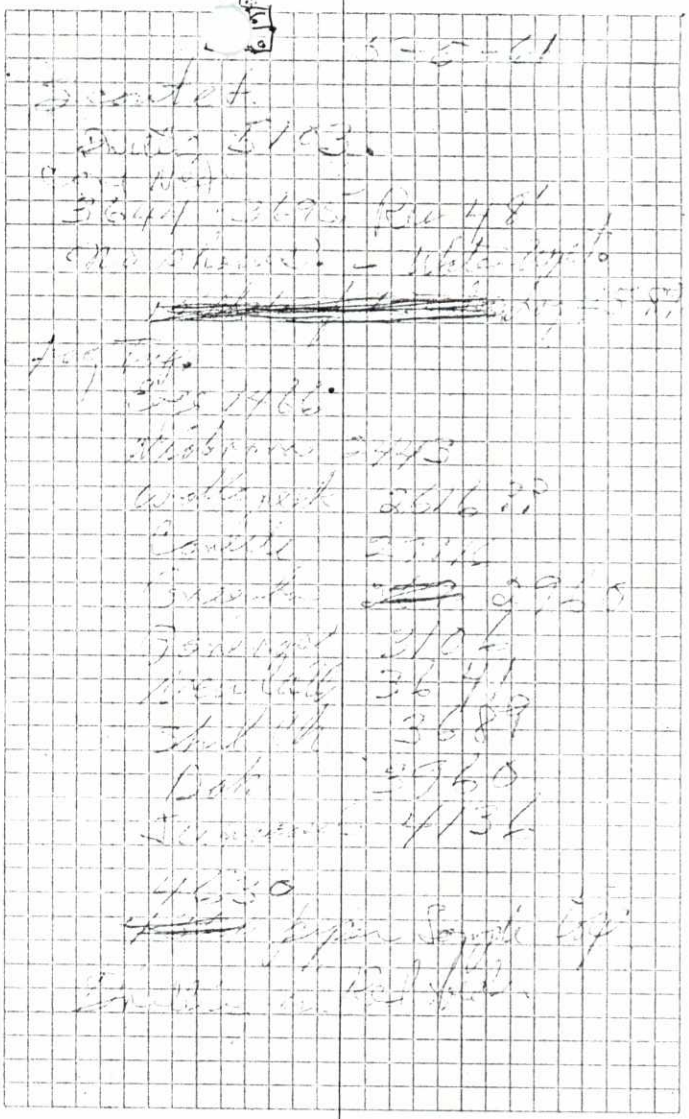
May 1 6

Drlg @ 3655'
Cmt 8 5/8 Csg - 5 hrs
Cmt Circ 300 sx
WOC 12 hrs
Test BOP to 1000 psi
Drlg @ 3826'
Run DST #1 3744-3826
Rec 90' SOCM
IFP 30-30
ISIP 1140/30 min
FFP 30-30
FSIP 1140/30 min
Test BOP & Hydril to 1000 psi
Drlg @ 4600'
Mud Wt 9.8
Viscosity 40
Water Loss 8.0 cc/30 min
Cake 2/32
Chlorides 3400
Drlg @ 5000'
Mud Wt 9.8
Viscosity 40
Water Loss 8.0 cc/30 min
Cake 2/32
Chlorides 3400
Drlg @ 5500'
Mud Wt 9.8
Viscosity 40
Water Loss 8.0 cc/30 min
Cake 2/32
Chlorides 3400
Drlg @ 6000'
Mud Wt 9.8
Viscosity 40
Water Loss 8.0 cc/30 min
Cake 2/32
Chlorides 3400
Drlg @ 6500'
Mud Wt 9.8
Viscosity 40
Water Loss 8.0 cc/30 min
Cake 2/32
Chlorides 3400
Drlg @ 6548'
Mud Wt 9.8
Viscosity 40
Water Loss 8.0 cc/30 min
Cake 2/32
Chlorides 3400
Core Lab Engineer on location.

Evanston			
New Castle	3600	Core 1 - test 1	
Tuscaloosa	4400 est	test 1	
Minneapolis	5510	core 1 - test 2	
Madison (Bls)	6050	test 1	
MC3	6290	Core 1	test 1
Dupont OW	7080	Core 1	test 1
Duluth	7210	Core 1	test 1
Fargo Int	7350		test 1
Fort Edm	7500	Core 2	test 3
Wenonga	8000	Cor 1	Test 1
Overhead	8400	Cor 1	Test 1
	9		14

Cut 1 log at 4500 by me BB Selling up
S.P. "Rest electronics & Microlog

Cont - "/Evans -
13,200 ppm Salt.



Drilling Operations
Suspended 3:30 pm 4/27/61
Resumed 8:00 am 5/2/61

Picked up Drill Collars + Bit
Drilled 4200 - 4213

Tops
Ind. 5395
Upper Choke 5438
Ml 5550
Chalk 6004

No Cores or DSTs.
May test Chalk if looks good.
May C + DST Miss. Con.
Will probably Core Lansing
Ml - Brick sand, lite — no Shows.

Picked up Samples 4200 - 6000
Drilling @ 6202
0 - 1000' Samples saved but not washed - will pick up next trip.

5-20-61

Drilling at 7200

Picked up Samples 6000 - 6800

Tops
Miss. Comp. (NC3) 6336
Scattered pin Oolite → Fair Fair to good porosity
Lodgepole 6600 (-)
Upper Bakken

Prepared — 7113 (-)
Core 7125 - 7184
Recovered 59'

DST 7109 - 7184
Initial Shut in 45
Tool open 3 hrs
Open 15 min.
Final Shut in 1 hr.
Rec 1635' Fluid
465' Muddy Salt water
1170' Gassy Salt water (14,000 ppm)

5-31-61

P 8158' pulling Co. #6

picked up 7470 - 8150 Samples

DST #3 7519 - 75-79

Bad Rain test. Some opn. v. slow

Rec. 300' slightly wtr

Cut mud. 270' mud

Cut Saltwater 795'

Saltwater.

SIP 3709 - 2845

FP 365 - 645

HP 4255 - 4180

BHTemp. 226°

DST #4

Blow gas 7595 - 7650.

7590 - 7615 3 blows dst.

Gas

Rec 312' mud & Saltwater

IHP - Saltwater.

SIP 3365 - 3255

FP 150 - 645

HP 4330 - 4275

Comp Tops

Zook Lime 7186 Lost Hand.

Circulating hole.

Sample Top:

8016 Winnipegosis

8102(?) Winnipeg Sand

Core #6 8104 - 8158.

6 5 - 61

Packer at 8332

DST #5 Winnipeg Sd.

8120 - 8180

Some opn. slight

Rec. 60' Drilling mud.

400' Muddy Saltwater

740' Clean Saltwater

SIP 3525 - 3550

FP 3525 - 3525

HP 4610 - 4520

Temp 190

ISI - 3140 I.H.P. 3955
FSI - 2930 F.H.P. 3895
IFP - 195
FFP - 690
max temp 160°

work perforating Core
drilled (7843 top)
and D.S.t.

Est T.P. 8500 or 400' below topog
no wildcat - shallower.

5-25-61

9:00 7579 Cored Getting ready to D.S.t.
top
Silurian -
Interlake 7240 (?)
Red River 7520

Core #2 7240 - 7291
Rec 28' Dolomite
2 foot cycle - mostly medium bit
some fair vugular - mostly tight
Stained dead oil

DST #2 7221 - 7291
Some Shut in
SIP 3370 3335
FP 2570 2663
HP 4105 4070
Rec. 6085' Salty water
(would have flowed if
kept open.

Core #3 Stony Mt - Red River
7510 - 7538 Rec 26'
no shows.
Core #4 - Red River
7538 - 7579
2 Several joint Cuts

DST #3 7519 - 7579 (?)

Pick up Sample 7470
6800
QP 2 core picked up

Core #67 Had slimy core
Cut 90 ft. & recovered
ft. by drill drilling fluid
Core 5 ft. on top - no
recovery

6-12-61

at 8817 - Had pulled one
bit - old drill collars damaged
and had stuck pipe a
few times during grouting.

Picked up Samples
8150 - 8820

Driller thinks all circulation
lost was at 6900.
at 8600 lost circ. at bottom
of hole (?)
Original estimate of
Dead wood top was 8750

6-14-61

T.D. 8814' Driller
Schlumberger 8795.
Logging Completed 6-14-61 4 A.M.
Ran Cont. (3) 87-8 ft. (?)
by Dresser Atlas 8350 (?)
5 3/4" Hole
D.C. 7 1/8" Cut off
4 1/2 Tool.
3.5 ft/min.
T.D. 2:30 P.M. 6-12-61
Logs Run
Gamma Ray-Sidewall
Density

Sample 10 cy

Bot 5 of cy 30 cy

Dak 3930 - 4065 45 cy

3930 - 4100

Miss 5550 - 5655 30

5550 - 5655

Dupont 7100 - 7205 90 cy

P&L 7500 - 7658 45 cy

Lovings 50 8100 - 8220 35 cy

Tied (22)

7-31-61

Checked location - Description not Corrected - Stitch dry to get rid of water and sinkage - should be filled later in fall.

Sample 6-15-61

25 Tons.

8220 - 8050 - 55 cy

7658 - 7500 - 45 cy

7205 - 7100 - 30 cy

5655 - 5550 - 30 "

4100 - 3930 - 45 "

1050 - 840 (?) - 75 "

10 cy

Edwards will see Peters & Bauman will be crank, Thursday at 10:00 AM. be at pit 6-22-61.

6-24-61

Pit fenced - but not filled. Sample pkg & mailed to Dallas - Shows #5E now called #5E New Mexico must be Changed. Oct 13, 1961

Must Be Corrected - Location - Description - Not Corrected

Located Nov 2 1961

Description Not Corrected

Nov 30, 1961

Phone Call from Texaco that description had been Corrected & Peters had reported that he had Corrected it previously.

Dec 7, 1961

Sample Corrected location markers in place.

OPERATOR'S TECHNICAL REPORTS / MAPS

TEXACO-STATE "A" NO. 1
C NE NW SECTION 35-18N-4E
HARDING COUNTY, SOUTH DAKOTA

Started Drilling: 4-26-61
Plugged and abandoned: 6-16-61

Samples examined under 9X microscope by:
G. E. Sorensen 1000-8819

Elevation: 3038 K.B.
Surface Casing: 10-3/4" @ 1016 w/300 sx.

Tops adjusted to Schlumberger logs.

DEPTH	DESCRIPTION
1000 - 1220	Sh, gy, bent, sli calc, f mica.
1220 - 1240	Sh, gy, lmpy, bent, f mica, w/gy-wh bent & wh calc incl.
1240 - 1280	Sh, gy, bent, sli calc, f mica, w/gy-wh bent & wh calc incl., pyr.
1280 - 1340	Sh, as ab, w/ls, dk brn-gy, slty.
1340 - 1420	Sh, gy, lmpy, bent, fos, sli calc, mica, pyr, w/wh calc incl & dk brn-gy ls.
1420 - 1466	Sh, as abv, bcm slty.
	EAGLE SS. (U. CRET.) 1466 FEET (+1572')
1466 - 1520	Sh, as abv, w/wh calc incl & fos & dk brn-gy ls, silty; intbd w/v thn sltstn bds, sli gas shows.
1520 - 1620	Sh, gy, lmpy, fos, mica, pyr; w/scat v thn sltstn bds, & scat calc incl, slty, brn.
1620 - 1700	Shale, as abv, w/thin lt brn sltstn & sndy sltstn bds, glauc, fri sli gas show at 1650'.
1700 - 2360	Shale, gy, sft, lmpy.
2360 - 2400	Sh, gy, sft, lmpy w/intbd sltstn, lt brn.
2400 - 2443	Sh and sltst, as abv; w/scatt sh, gy to dk gy, blky, w/lt calc specs.
	NIOBRARA SH. (U. CRET.) 2443 FEET (+595')
2443 - 2540	Sh, gy to dk gy, blky, w/lt calc specs, scatt blk fish (?) frags, and pyr Inoc frags. Loc shy coq.
2540 - 2616	Sh, as abv, w/scat bent bds, gy-wh, mica, pyr at base.
	WALL CREEK SS (U. CRET.) 2616 FEET (+422')
2616 - 2660	Ss, wh, s & p, v f gr, glauc, qtz, fri, sli gas show; intbdd w/sh, dk gy, sft.
2660 - 2680	Ss, gy to brn, slty, v f gr, qtz, firm scat blk mica, calc.
2680 - 2700	Ss, mix of 2 types abv, intbd w/sh, gy to dk gy, sft, mica.
2700 - 2716	As abv, w/less ss & more sh.
	CARLILE SH. (U. CRET.) 2716 FEET (+322')
2716 - 2780	Sh, gy to dk gy, sft, lmpy, w/sltst, brn.
2780 - 2800	As abv, w/dkr sh & lrg fltg qtz sd grs, up to 2.0 mm.
2800 - 2920	Sh, dk gy, sft, lmpy to slty, mica, w/pyr & fltg sd grns, as abv.
2920 - 2960	Sh, dk gy to blk, as abv.
	GREENHORN FM. (U. CRET.) 2960 FEET (+78')
2960 - 3020	Sh, dk gy to blk, calc, blky, w/wh calc specs, & dism pyr, & coq sd strs.
3020 - 3040	Ls, wh to lt brn, suc, fos, intbd/sh as abv. Inoc pris.
3040 - 3105	Sh, dk gy to blk, v calc, blky w/wh calc specs & scat ls strs, as abv. Inoc. pris.
	BELLE FOURCHE SH. (U. CRET.) 3105 FEET (-67')
3105 - 3280	Sh, dk gy to blk, lmpy to plty, calc, w/bent strs, bl-wh, pyr.

SAMPLE STUDY

CONFIDENTIAL

TEXACO #1 State "A"
NENW 35-18N-4E
Hardinglo., S.D.

3280 - 3300	No sample
3300 - 3400	Sh, dk gy, plty, mica, w/intbd strs slty sh, brn-gy; sltst, brn-gy; and bent, wh.
3400 - 3580	Sh, as abv, w/incr sltst, brn to gy-brn; and bent, wh.
3580 - 3610	Sltst, brn to gy-brn, w/intbd sh, dk gy, plty, mica; and scat bent, wh. Fish sc.
	NEWCASTLE SS (L. CRET.) 3641 FEET (-603')
3610 - 3644	Ss, wh to gy, v f to f gn, calc, slty, cly, w/strs sltst, shy, dk gy to brn.
CORE NO. 1	3644-3695 Rec. 48'
3644 - 3651	Sh, v dk gy to blk, mica, fos (Inoc & fish scales), sli calc, w/thn strs & lam ss, gy, v f to f gr, v calc.
3651 - 3654	Sh, gy, slty, carb, w/thn ss strs as abv, non-calc, pyr.
3654 - 3661	Ss, gy, qtz, f gr, v carb, slty, fair poro, mot wh loc, looks wtr wet. Poro incr toward base, and lrg char frag occur loc. No shows.
3661 - 3664	Ss, wh to grn, qtz, f gr, v sli calc, good poro, cln, looks v wtr wet, fri. No shows.
3664 - 3666	Sh, gy-grn to grn, hd, sli sil, pyr, bent, sli carb.
3666 - 3667	Sh, blk, sft, v carb.
3667 - 3674	Ss, gy-wh, v f gr, carb, looks wtr wet, f to gd poro. No shows.
3674 - 3678	Sh, blk to dk gy to brn, v carb, slty twd base.
3678 - 3690	Ss, gy-wh to brn, v f gr, carb, slty, poor to fair poro, looks wtr wet, w/str & lam sh, blk to v dk gy, carb, slty, and scat rd mod tan sltst (volc?). V contorted bedding loc. No shows.
3690 - 3692	Ss, gy-brn, v slty, v calc, v f to f gr, no shows, good poro.
3692 - 3695	No recovery.
CUTTINGS	
3695 - 3720	Ss, gy-brn, qtz, cly, f gr, fair to good poro, no show, calc.
3720 - 3860	Sh, dk gr, plty, mica, w/intbd sltst, brn, shy.
3860 - 3960	As abv, w/incr sltst, and scat bent, wh.
	DAKOTA GROUP (L. CRET.) 3960 FEET (-922')
3960 - 4000	Ss, wh to tan, f to v f gr, qtz, cly, no show, p. poro.
4000 - 4020	Sh, dk gy to blk, blky, carb, w/scat lig frag.
4020 - 4040	Sh, as abv, w/ss, brn to tn, v f gr, qtz, hard, tt, slty, no show, sil pel.
4040 - 4080	Sltst, brn to tan, loc sdy, mica, w/lse, fros, rd, qtz grs up to 1.0 mm, and str sh, gy, slty.
4080 - 4137	Ss, brn, m to c gr, qtz, hard, w/abund lse, fros, rd, qtz grs up to 2.0 mm, poor to v poor poro, no show.
	SUNDANCE FM. (JUR.) 4137 FEET (-1099')
4137 - 4140	Sh, dk gy, mica, plty to blky, carb.
4140 - 4180	Clyst, gy-wht, blky, subwxy.
4180 - 4200	Sh, gy, cly, subwxy, w/clyst, gy-wht to gy, blky, subwxy, mot pk to lav; and carb mat.
4200 - 4260	Clyst, gy-wht to gy, blky to lmpy, subwxy, hd, w/pk to lav slty str.
4260 - 4300	Clyst, as abv, w/str ss, wht, f gr, qtz, cly cmt, tt, no show.
4300 - 4340	Ss, lse, qtz, fros rd gr up to 1.0 mm, av sz 0.5 mm, w/str ss, v f gr, glauc, cly cmt, tt.
4340 - 4380	Clst, gy to gy-wh, mot lav to brn, blky, w/ss, wh, f gr, cly, qtz, and ss, wh to grn, f to v f gr, glauc, cly, tt, calc.
4380 - 4400	Ss, wh to grn-wh, f gr, cly, qtz, glauc, calc, sft, w/intbd clyst, as ab, sdy. No show.
4400 - 4420	As abv, w/some sh, grn, wxy. No show.
4420 - 4440	Ss, wh, f gr, cly, qtz, scat glauc, calc, sft, no show, w/sh, grn, wxy.
4440 - 4510	Ss, as abv, w/inc glauc. Looks like faint oil stain, but doesn't cut. Some intbd sh, blk, glauc, mica, No show.
4510 - 4530	Ss, as abv, w/some intbd sh, lav to grn, subwxy, blky. No show.
4530 - 4570	Sh, grn, gy to dk gr, lav, brn, wxy, sft, pyr, plty, w/some ss, as abv.
4570 - 4590	Ss, wh to grn, f gr, qtz, glauc, calc, cly, no shows, w/some sh, grn, grn-gy, lav, brn, dk gy to blk, glauc, sli pyr, plty, and sltst, dk rd.

4590 - 4600 Sh, grn, lav, gy, dk gy to blk brn, sli pyr, w/some ss, as abv. 4598 - logging depth
4600 - 4636 Sh, as abv, w/some sltst, rd, and ss, wh to grn, glauc.

PIPER LS. (JUR.) 4636 FEET (-1598')

4636 - 4650 Dol, crm to tan, rthy to mic gr, scat p to f p.p. and vug poro, sli oil (?) cut (might be pipe dope).
4650 - 4660 Ls, brn, crypxl, dns, w/some dol, as abv.
4660 - 4680 Ls, brn to tan, crypxl, dns, chk.
4680 - 4700 Sh, rd to lav, mrly; sltst, rd to brn, calc.
4700 - 4710 Dol, gy-wh to brn, xl, slty; w/some sltst, as ab.
4710 - 4720 Ls, crm, rthy, dns, cryxl.
4720 - 4740 Ls, brn, cryxl, dns; and ls crm, rthy, dns.
4740 - 4760 Sltst, dk brn-gy, sli calc, shaly; some ls, as abv.
4760 - 4780 Sltst, as ab, w/some scat sltst, rd-org to rd, shy.
4780 - 4800 Sltst, rd-org to rd, grn, blky to lmpy, f mica; w/wh anhy incl; ls, crm to tan, rthy, dns, arg, dol.
4800 - 4820 Sltst, rd-org to rd, mot grn, f mica, blky to lmpy, w/wh anhy incl; v scat ls, as abv.
4820 - 4840 Sltst, rd-org to rd, mot grn and lav, f mica to sandy, blky to lmpy, anhy, w/wh anhy incl.
4840 - 4880 Anhy, wh, w/rd slty strs; intbd w/sltst, as abv.
4880 - 4900 Sltst, org-rd to mar, anhy, w/f gr sdy str; and lse fltg qtz gr, fros, rd, up to 1.0 mm.
4900 - 4960 Sh, org-rd, mot grn, slty, anhy, w/lse fltg sd gr, as abv.
4960 - 4980 Salt, clr, w/some sltst, org-rd, shy, anhy.
4980 - 5007 Sltst and sh, org-rd, anhy.

PINE SALT (TRI.) 5007 FEET (-1969')

5007 - 5140 Salt, clr to rd, w/intbd sh and sltst, as abv.
5140 - 5280 As abv, w/incr salt.
5280 - 5300 Sh, org-rd to rd, grn, slty, anhy, salty, w/some free salt.
5300 - 5310 Salt, clr, shy, anhy.
5310 - 5320 Salt, as abv, w/intbd sltst, org-rd, shy, salty, anhy.
5320 - 5360 Sltst, org-rd, shy, salty, anhy, (lots of cavings), some calcite.
5360 - 5370 Sltst, as abv, w/scat dol, crm, subchk, dns. (cavings?)
5370 - 5380 Sltst, as abv.
5380 - 5390 No sample (driller's depth corr.)
5390 - 5399 Sltst, as abv.

MINNEKAHTA LS. (PERM.) 5399 FEET (-2361')

5399 - 5410 Anhy, wh and clr to pk, hd.
5410 - 5415 Anhy, as abv, w/trace dol, crm, micsuc.
5415 - 5420 Dol, crm to pnk, mot rd, micsuc to cryxl, dns, anhy, incl; intbd w/ls, tan to brn, cryxl, arg, dns, anhy incl, dol. No show.
5420 - 5438 Ls, crm to tan to dk brn, cryxl, chk to arg, dns, anhy incl, grdg to lmy dol, crm to pnk, mot org-rd to rd, cryxl to mic gran, dns, anhy incl. No show.

OPECHE SH. (PERM.) 5438 FEET (-2400')

5438 - 5450 Ls and dol, as abv, w/ some sh, org-rd to rd, slty, calc, lmpy to blky, anhy, and anhy, wh.
5450 - 5460 Sh, org-rd to org to rd-brn, slty, lmpy to blky, calc, anhy, w/some anhy, wh, and calc, wh to org. Some salt casts in sh frags.
5460 - 5470 As abv, w/incr sh.
5470 - 5500 Sh, as abv, v calc, w/wh calc incl.
5500 - 5520 Sh, as abv, w/some anhy, hd, wh.
5520 - 5540 Sh, as abv, w/few lse, fltg qtz gr, rd, fros, up to 0.7 mm.
5540 - 5550 Sh, as abv, w/scat anhy, wh, hd, and lse fltg qtz gr, as ab.
5550 - 5555 Sh, as abv, w/fltg sd gr, as abv, and scatt ls, crm, mot pnk & lav, dol, dns, cryxl.
5555 - 5565 Sh, org-rd to rd-brn, slty, loc v sdy, calc, lmpy to blky, w/ fltg lse qtz gr, fros, rd, up to 1 mm. Some scat anhy, wh, hd, calc. Ss incr twd base.
5565 - 5570 Ss, org-rd, slty, shy, f to m gr, scat c gr, rd, fros; calc; w/scat anhy, wh, hd, calc. No show. Some scat dol, crm to pnk, v lmy, dns; and num lse fros qtz gr, up to 1.0 mm.

4590 - 4600 Sh, grn, lav, gy, dk gy to blk brn, sli pyr, w/some ss, as abv.
4598 - logging depth.
4600 - 4636 Sh, as abv, w/some sltst, rd, and ss, wh to grn, glauc.

PIPER Ls. (MIS.) 4636 FEET (-1598')

4636 - 4650 Dol, crm to tan, rthy to mic gr, scat p to f p.p. and vug poro, sli oil (?) cut (might be pipe dope).
4650 - 4660 Ls, brn, crypxl, dns, w/some dol, as abv.
4660 - 4680 Ls, brn to tan, crypxl, dns, chk.
4680 - 4700 Sh, rd to lav, mrly; sltst, rd to brn, calc.
4700 - 4710 Dol, gy-wh to brn, xl, slty; w/some sltst, as ab.
4710 - 4720 Ls, crm, rthy, dns, cryxl.
4720 - 4740 Ls, brn, cryxl, dns; and ls crm, rthy, dns.
4740 - 4760 Sltst, dk brn-gy, sli calc, shaly; some ls, as abv. TOP OF SPEARFISH (FVS)
4760 - 4780 Sltst, as ab, w/some scat sltst, rd-org to rd, shy.
4780 - 4800 Sltst, rd-org to rd, grn, blky to lmpy, f mica; w/wh anhy incl; ls, crm to tan, rthy, dns, arg, dol.
4800 - 4820 Sltst, rd-org to rd, mot grn, f mica, blky to lmpy, w/wh anhy incl; v scat ls, as abv.
4820 - 4840 Sltst, rd-org to rd, mot grn and lav, f mica to sandy, blky to lmpy, anhy, w/wh anhy incl.
4840 - 4880 Anhy, wh, w/rd slty strs; intbd w/sltst, as abv.
4880 - 4900 Sltst, org-rd to mar, anhy, w/f gr sdy str; and lse fltg qtz gr, fros, rd, up to 1.0 mm.
4900 - 4960 Sh, org-rd, mot grn, slty, anhy, w/lse fltg rd gr, as abv.
4960 - 4980 Salt, clr, w/some sltst, org-rd, shy, anhy.
4980 - 5007 Sltst and sh, org-rd, anhy.

PINE SALT (PRI.) 5007 FEET (-1969')

5007 - 5140 Salt, clr to rd, w/intbd sh and sltst, as abv.
5140 - 5280 As abv, w/incr salt.
5280 - 5300 Sh, org-rd to rd, grn, slty, anhy, salty, w/some free salt. SPEARFISH (FVS)
5300 - 5310 Salt, clr, shy, anhy.
5310 - 5320 Salt, as abv, w/intbd sltst, org-rd, shy, salty, anhy.
5320 - 5360 Sltst, org-rd, shy, salty, anhy, (lots of cavings), some calcite.
5360 - 5370 Sltst, as abv, w/scat dol, crm, subenk, dns. (cavings?)
5370 - 5380 Sltst, as abv.
5380 - 5390 No sample (driller's depth corr.)
5390 - 5399 Sltst, as abv.

MINNEKAHTA Ls. (PENN.) 5399 FEET (-2361')

5399 - 5410 Anhy, wh and clr to pk, hd.
5410 - 5415 Anhy, as abv, w/trace dol, crm, micxc.
5415 - 5420 Dol, crm to pnk, mot rd, micxc to cryxl, dns, anhy, incl; in bd w/ls, tan to brn, cryxl, arg, dns, anhy incl, dol. No show.
5420 - 5438 Ls crm to tan to dk brn, cryxl, chk to arg, dns, anhy incl, gr g to lmy dol, crm to pnk, mot org-rd to rd, cryxl to mic xln, dns, anhy incl. No show.

OPECHE SH. (PENN.) 5438 FEET (-2400')

5438 - 5450 Ls and dol, as abv, w/ some sh, org-rd to rd, slty, calc, lmpy to blky, anhy, and anhy, wh.
5450 - 5460 Sh org-rd to org to rd-brn, slty, lmpy to blky, calc, anhy, w/ some anhy, wh, and calc, wh to org. Some salt casts in sh frags.
5460 - 5470 As abv, w/incr sh.
5470 - 5500 Sh, as abv, v calc, w/wh calc incl.
5500 - 5520 Sh, as abv, w/some anhy, hd, wh.
5520 - 5540 Sh, as abv, w/few lse, fltg qtz gr, rd, fros, up to 0.7 mm.
5540 - 5550 Sh, as abv, w/scat anhy, wh, hd, and lse fltg qtz gr, as ab.
5550 - 5555 Sh, as abv, w/fltg sd gr, as abv, and scatt ls, crm, mot pnk & lav, dol, dns, cryxl.
5555 - 5565 Sh, org-rd to rd-brn, slty, loc v sdy, calc, lmpy to blky, w/ fltg lse qtz gr, fros, rd, up to 1 mm. Some scat anhy, wh, hd, calc. Sa incr twd base.
5565 - 5570 Ss, org-rd, slty, shy, f to m gr, scat c gr, rd, fros; calc; w/scat anhy, wh, hd, calc. No show. Some scat dol, crm to pnk, v lmy, dns; and num lse frost qtz gr, up to 1.0 mm.

5570 - 5575 Ss, as abv, w/sh, rd-brn and sdy, lav, lmpy, and fltg lse qtz gr, as abv, and dol, as abv, grdy to dol ls, no show.

5575 - 5577 Sh, lav, rd-brn, gry, gy-lav, mot rd, blky, w/ss, as abv, and anhy, scat, wh, hd. No show.

MINNELUSA FM. (PENN-PERM) 5577 FEET (-2539')

5577 - 5584 Sh, rd-brn, gy, gy-lav, lav, mot lav, subwxy, blky, and ss, org-rd to rd, f to c gr, tt, slty, shy, lrg rnd fros qtz gr; abund lse fltg qtz gr, rd, fros, up to 1.0 mm. No show. Scat ls, brn to dk brn, cryxl, dns.

5584 - 5592 Sh, as abv, w/ss, org-wh, qtz, f to m gr, sli calc, tt, cly, no show; some anhy, wh, sft, calc; and ls, as abv; and lse fltg qtz gr, rd, fros, up to 1.5 mm.

5592 - 5596 As abv, w/incr anhy.

5596 - 5602 Anhy, wh, sft, w/ss and ls, as abv. No show.

5602 - 5608 Anhy, wh, sft, w/ss, org to pnk to lt rd, f to med gr, qtz, rnd fros gr, slty, cly, tt, no show.

5608 - 5610 Dol, lav to crm, cryxl, dns, scat p.p.poro, no show; w/ss, as abv, tt, no show.

5610 - 5615 Dol, lav to crm to pnk, dns, cryxl, loc microsuc; w/ss, as abv, tt, No show.

5615 - 5620 Dol, as abv, loc sdy, w/ss, org to lav to rd, f to m gr, qtz, dol, cly, tt; and ls, brn, dol, dns, cryxl, No shows.

5620 - 5625 Dol, as abv, scat vug poro, faint oil (?) cut; ls, brn to dk brn, cryxl to frag, scat p.p.poro, fair oil (?) cut; ss, as abv, no show. (Shows may be from diesel fuel in mud, no streamers were seen).

5625 - 5640 As abv, no show.

5640 - 5650 As abv, w/sh, lav, mot och yel, lmpy & subwxy to blky; incr anhy, wh, sft; no shows.

5650 - 5670 Dol, lav to crm, blky, hd, cryxl, anhy incl, w/some ls, crm, dns, chky to cryxl, and anhy, wh, sft, and ss, org to rd, qtz, shy, f to m gr, tt, dol. No shows.

5670 - 5680 As abov, w/scat p.p.poro in dol, no show, and incr ss.

5680 - 5690 As abv, w/incr ss, no show.

5690 - 5695 Dol, as abv, w/some ss, as abv. No poro in dol, no show.

5695 - 5700 Dol, as abv, w/scat p.p.poro, no show.

5700 - 5705 Dol, as abv, no poro, some anhy.

5705 - 5710 Dol, as abv, w/scat p.p.poro, no show; and some ss, org to rd, f to m gr, qtz, shy, dol, tt, to v poor poro, no show; some anhy, wh, sft.

5710 - 5730 Dol, crm to lt brn, mot pnk to lav, dns, arg, cryxl, loc sndy, intbd w/ss, wh to crm, qtz, shy, dol, f to m gr, tt, no show.

5730 - 5745 As abv, w/ss pred, no show.

5745 - 5750 Ss, wh to crm, m gr, qtz, cly, dol, tt, no show.

5750 - 5755 Ss, as abv, w/intbd dol, crm to brn, mot pnk to lav, dns, cryxl, arg, scat p.p. and vug poro, no shows.

5755 - 5760 As abv, w/incr dol, no show.

5760 - 5765 Dol, crm to brn to rd, crypxl to micsuc, dns, arg, poor p.p. and vug poro, no show; some anhy, wh, sft.

5765 - 5770 Dol, as abv, no show; incr anhy, wh, sft.

5770 - 5800 Dol, crm to brn to rd, tr clr to mlky cht, cryxl to micsuc to sdy, arg, scat poor p.p. and vug poro, no show.

5800 - 5830 Dol, as abv, w/anhy, wh, sft. No show.

5830 - 5840 Dol, as abv, grdg to dol ss, crm, shy, v p poro to tt, no show. Some anhy, wh, sft.

5840 - 5870 Dol, crm to brn, mot rd to pnk, cryxl to micsuc, loc sdy, p to g p.p. and vug poro, no show. Tr cht, milky wh. Poss dead oil resi.

5870 - 5890 Dol, as abv, scat p. p.p.poro, no show; cht, clr to milky wh.

5890 - 5900 Dol, as abv, scat p. p.p.poro, no show; w/cht, clr to mlky wh, and sh, yel to tur grn, plty, subwxy.

5900 - 5920 Dol, sh, and cht, as abv, w/ls, crm, chky, arg, dol, no show.

5920 - 5935 As abv, w/sh, yel, grn, dk gr, no show.

5935 - 5945 Dol, as abv, w/cht, clr to wht, and incr ls, as abv, no show.

5945 - 5950 Dol, brn to crm, cryxl to xl to micsuc, dns; sh, grn to yel-grn to dk gr, plty; chk, wh, sft; cht, clr, arg. Pred. chk, no shows, scat p.p. vug & intxl poro in dol.

5950 - 5955 Ss, blk, mot mlky wh, calc, qtz, no flor, no cut, asph resd? lig? grdg to sh, blk, hd, blky. Some dol, as abv, no show, chty; and chk, as abv.

5955 - 5960 Dol, crm to brn, chty, arg, cryxl to xl to micsuc, f to g p.p. and vug poro, poor cut; ls, crm, chky, sft, dns, grdg to chk,

dns, no show; sh, blk to dk gy to grn, loc blk, sdy; tr ss, pnk to wh, qtz, shy, m gr, tt, no show.

5960 - 5970 As abv, less poro, no show, less blk ss & sdy sh; ls, gy to crm to dk brn, cryxl to frag, dns, arg, anhy incl, chky in pt, fos (Ost).

5970 - 5975 Ls, gy, to crm to dk brn, cryxl to chky, arg, dns, fos (Ost), incl anhy w/pyr, scat p.p. poro, no show.

5975 - 5980 Ls, as abv, w/sh, gy-grn, sft, lmpy; spy; & lse fltg sd gr, qtz, rd, fros, up to 0.5 mm., no show or poro.

5980 - 5985 Sh, gy-grn to grn, pyr, sft, lmpy; and ss, wh to pnk, qtz, shy, m gr, rd & fros gr, calc cmt; and ls, as abv, no shows.

5985 - 5990 Ss, wh to pnk, f to c gr, qtz, sli calc to non-calc, hd, shy, tt, intbd w/sh, grn to rd, loc sdy, lmpy.

5990 - 6008 As abv, w/incr rd sh, and some ochre yel sh.

CHARLES FM. (MISS.) 6008 FEET (-2970')

6008 - 6080 Ls, wh to crm, chky to cryxl, arg, dns, mot rd, loc frag & fos; some dol, brn, micgran; no shows.

6080 - 6110 Ls, as abv, anhy, becm less chky, more xl, dk brn, w/some anhy, wh, sft.

6110 - 6120 Ls, crm to dk brn, slty, chky to xl to frag, fos, arg, anhy, scat p.p.poro, no show, w/anhy, wh, sft; some dol, gy, arg, micgran, dns.

6120 - 6130 Dol, gy-brn, cryxl, slty, anhy incl, dns, arg, intbd w/ls, crm to brn, cryxl, dns, arg, and anhy, wh, sft, f xl.

6130 - 6135 Dol, as abv, becm micsuc, and ls and anhy, as ab. Som ls, dk brn, micgran to frag, f stn, p intgran poro, fair to good oil cut.

6135 - 6140 Dol, crm to brn, cryxl to micsuc, lmy, m/anhy incl, loc slty, dns, and ls, wh to crm, chky, dns, loc frag, no app poro, no show.

6140 - 6145 Dol as abv, scat p. oil (?) cuts. Some scat p.p. poro in micsuc dol, no show.

6145 - 6150 Dol, as abv, no poro or shows.

6150 - 6170 Dol, crm to brn, arg, anhy, lmy, micsuc to micgran, no show; intbd w/ls, dk brn, v arg, cryxl to frag, loc chky, w/blk arg str, no show. Some anhy, wh, sft, f xl.

6170 - 6180 Dol & ls, as abv, w/scat p.p.poro, no show.

6180 - 6190 Dol, crm to brn, arg, chky, micsuc to micgran, anhy, anhy incl; intbd/ls, dk brn, arg, anhy incl, frag to cryxl, no shows.

6190 - 6192 Dol, crm to brn, sli arg, micsuc, anhy incl; some ls, dk brn, xl, dns, no show.

6192 - 6200 Dol, as abv, w/ls, brn, micxl to frag, fos, dol, f to p. p.p. poro, no show; some anhy, wh, sft, f xl.

6200 - 6205 Dol, crm, cryxl, v anhy, some micsuc, arg, w/ls, as abv, no show.

6205 - 6210 Dol, as abv, scat poor vug poro, no show.

6210 - 6220 Dol, as abv, no show, no poro.

6220 - 6230 Ls, gy to crm to brn, frag, chky, anhy, tt; and dol, as abv, scat p.p.poro, no show. Incr anhy, wh, sft, dol, lmy.

6230 - 6245 As abv, no poro, no show.

6245 - 6250 Ls, crm, chky, anhy, dns, arg.

6250 - 6255 Dol, brn, micsuc, anhy, arg, scat p.p.poro, no show; inthd w/ls, as ab.

6255 - 6260 Anhy, wh, sft, f xln, w/dol, brn, micsuc to cryxl, anhy, arg, scatt p.p. poro, no show.

6260 - 6270 As abv, w/ls, crm to brn, chky to cryxl, arg, dns, no show.

6270 - 6275 Dol, lt brn, cryxl, shy, dns, w/num anhy filled vugs, brn to wh, hd, xl; and anhy, wh, f xl, sft to hd.

6275 - 6280 Dol, as abv, becm gy, v lmy, v shy, dns. Some anhy, as abv, mot gy.

6280 - 6290 Dol, gy, v lmy, v shy, dns, pyr, anhy incl, wh, f xl. Anhy, wh to brn to gry, f xl, hd, dol.

6290 - 6320 As abv, w/incr anhy.

6320 - 6335 Anhy, gy to wh, hd, f xl, sli dol, wh anhy loc poro, no show.

MC-3 (MISS.) 6338 FEET (-3300')

6335 - 6340 Anhy, as abv, w/dol, lt brn, micsuc, arg, anhy incl, no show.

6340 - 6345 Dol, as abv, no show.

6345 - 6350 Ls, lt brn, cryxl, dol, p to f vug poro, f to g oil cut, some asph res.

6350 - 6355 Ls, crm to brn, arg, suc to xl to frag dol, p to f intxl and vug poro, no show.

6355 - 6360 Ls, as abv, bcm ool, no show, p. p.p. poro and intool poro.
6360 - 6375 Ls, crm to lt brn, suc to xl to frag, sli arg, dol, subchky, p. p.p. and intxl poor, no show. Scat dol, crm to lt brn, micsuc, anhy incl, v p. p.p. poro, v faint oil cut (?)
6375 - 6390 Ls, as abv, sli ool, scat v faint oil cuts (?) 6375-80, p. poro, as abv. Some ls, chky, crm w/asph str, faint oil cut.
6390 - 6395 Ls, as abv, v dol, p to f p.p. and vug and intxl poro, no show.
6395 - 6410 Dol, gy brn, micsuc to frag, sli arg, lmy, subchky, g vug poro, no show, intbd w/ls, as abv, no show.
6410 - 6425 Ls, brn, suc to frag, sli arg, dol, chky to subchky, p. p.p. poro, no show.
6425 - 6430 Ls, as abv, loc ool, no poro.
6430 - 6450 Ls, as abv, scat p. p.p.poro, no show.
6450 - 6460 Ls, as abv, w/dol, crm, mot pnk, dns, cryxl, no show.
6460 - 6510 Ls, as abv, scat p. p.p.poro, no show.
6510 - 6525 Ls, as abv, bcm dk brn, cryxl to cxl, arg, anhy incl, dns, blk asph res (?) on styl, v faint cut.
6525 - 6540 Anhy, wh to gy, dol, loc v shy, hd, grdg to dol, gy, v shy, anhy; w/ls, suc to frag to xl, sli arg, dol, loc subchky, p intxl and p.p.poro, v. p. oil cut.
6540 - 6545 Anhy and ls, as abv, ls pred, poro as abv, no show.
6545 - 6555 Anhy, wh to gy, shy, hd, sli dol, w/str dol, crm, cryxl, anhy incl, p vug poro, no show.
6555 - 6560 Dol, lt to dk brn to gy, micsuc to cryxl, lmy, blk arg str, loc v g vug poro, pt chk filled, no show. Some ls, brn, suc to frag to xl, dol, loc subchky.
6560 - 6570 Dol, as abv, scatt p.p.poro, no show, and ls, crm chky, dns. Some anhy, wh, sft.
6570 - 6580 Dol, brn, suc, sli arg, lmy, v g vug poro, no show; some ls, crm, chky, dns, anhy, bcm dk brn, xl, dns.
6580 - 6590 Ls, brn to crm, suc to frag to chky, anhy, psdo-ool to ool, sli arg, p to f p.p. and intgran poro, no show; w/dol, as abv, no show, poro pt chk filled.
6590 - 6600 Ls and dol, as abv, w/incr chky ls, no show.
6600 - 6610 Ls, crm, chky, frag, dns, anhy w/some ls, brn, psdo-ool to ool, p int-gran poro, pt chk filled, no show.
6610 - 6620 Ls, as abv, w/incr ool ls. Tr ls, gy-brn to gy, arg, dns, frag to xl, anhy, dol.
6620 - 6649 Ls, gy to gy-brn, frag to xl, arg, anhy, dns, dol.

LODGEPOLE FM. (MISS.) 6649 FEET (-3611')

6649 - 6670 Ls, brn, frag, sub chky, sli arg, p intfrag poro, no show.
6670 - 6680 Ls, as abv, w/str dol, dk brn, cryxl to micsuc, dns, no shows.
6680 - 6700 Ls, as abv, bcm gy to gy-brn, dol, arg; and dol, as abv, no shows.
6700 - 6730 Dol, gy to gy-brn, micsuc to cryxl, dns, hd, arg, lmy, intbd w/ls, gy to gy-brn, micsuc to frag, dns, hd, arg, dol, subchky.
6730 - 6770 Ls, gy to gy-tan, frag to xl, sli ool, subchky, dol, gy sh mot, arg to shy, dns. Some scatt qtz (chert?) frag, clr, pnk str.
6770 - 6790 Ls, as abv, pyr, chty, w/dol, dk brn, micsuc to micxl, hd, dns.
6790 - 6810 Ls, gy & tan mot, frag to xl, hd, dns, arg, shy, sli ool, sub chky, chty.
6810 - 6830 As abv, v p s (lost circulation zone).
6830 - 6880 Ls, as abv, bcm lt brn to brn, suc to frag to xl, sli arg, loc chky, anhy incl, chty. Scat v p intgran poro, no show.
6880 - 6920 Ls, brn to gy-brn, frag to xl, arg, shy, subchky, hd, dns.
6920 - 6930 Ls, crm to brn, micsuc to suc to chky.
6930 - 6950 Ls, as abv, bcm micxl, dns.
6950 - 6960 Dol, dk brn, micsuc, dns.
6960 - 6970 Ls, crm to dk brn, micsuc & dol to chky & frag, dns, hd, arg.
6970 - 6980 Dol, gy-brn to dk brn, micsuc, hd, dns, sil, p. p.p.poro, no show.
6980 - 7010 As abv, bcm more gy and arg, no poro.
7010 - 7020 Dol, as abv, w/ls, crm to brn, suc to frag to xl, arg, sb chky, dns, dol, chty.
7020 - 7060 Ls, as abv.
7060 - 7065 Ls, as abv, w/dol, dk brn, micsuc to suc, anhy incl, pyr incl, dns.
7065 - 7100 Dol, brn to dk brn, micsuc to suc, scat glauc, dns, anhy incl, pyr incl, arg w/intbd ls, crm to brn, micxl to micsuc, dns, sli arg, p to f intgran poro in dol, no show.

7100 - 7104 Dol, as abv, w/sh, blk, grn-gy, grn, mar, sft.

DUPTROW FM. (DEV.) 7104 FEET (-4066')

7104 - 7125 Dol, crm to grn, micsuc to cryxl, dis pyr & glauc, anhy, sli arg, f to g intgran & vug poro, v faint cut.

CORE NO. 2 7125-7184 Rec. 59'

7125 - 7126 Dol, brn, micsuc, pyr incl, dns, tt.
7126 - 7130 Dol, grn to grn-gy, cryxl, slty, sdy str, dns, tt, w/rd, fros sd gr up to 2 mm, glauc, dis pyr.
7130 - 7138 Dol, crm, micsuc, dns, anhy, dis pyr, scat p vug poro, no cut, faint odor, spotty fluor.
7138 - 7139 Dol, grn, cryxl, dns, tt, dis pyr, glauc.
7139 - 7140 Sh, dk grn, hd, splty, dis pyr.
7140 - 7144 Dol, brn to grn, micsuc, dns, tt, anhy; scat sd gr, rd, fros, up to 1 mm; glauc where grn.
7144 - 7145 Dol, as abv, beg brn, arg, f xl, dns, tt.
7145 - 7152 Dol, brn, micsuc, anhy, pyr, arg str, dns, p. p.p. and vug poro, no cut.
7152 - 7153 Dol, as abv, no poro.
7153 - 7154 Dol, grn-wh, micsuc, glauc, dns, tt.
7154 - 7155 Dol, grn-gy, micxl, dns, tt, dk grn sh str.
7155 - 7156 Dol, grn, micxl, dns, tt, m/rd, fros sd gr up to 1 mm.
7156 - 7158 Dol, brn to dk brn, micsuc, arg str, dns, tt.
7158 - 7161 Dol, brn, micsuc, pyr, anhy, dns, tt, sli frac; scat rd, fros sd gr up to 1 mm.
7161 - 7162 Dol, gy, cryxl, dns, tt, m/rd, fros sd gr up to 1 mm, tr pyr.
7162 - 7163 Dol, lt brn, cryxl, rthy, lmy, brec, v p p.p.poro, no cut.
7163 - 7166 Dol, brn to dk brn, micsuc, tr pyr, frac, loc sdy w/ rd, fros gr up to 2 mm, p vug poro, no cut, fair odor, fair stain.
7166 - 7168 Dol, grn-gy, cryxl, sdy, w/rd fros gr up to 1 mm, tt.
7168 - 7169 Dol, as abv, anhy, no sd.
7169 - 7171 Sh, dk grn, pyr, hd, splty, str dol, grn-gy, micsuc, dns, tt; grdg to dol, dk grn, shy, glauc, cryxl, dns, tt, hd, pyr.
7171 - 7173 Dol, as abv, w/gy micsuc dol str, dns, tt.
7173 - 7177 Dol, gy-grn, micsuc, dns, scat anhy, tt.
7177 - 7179 Dol, grn, dns, tt, scat pyr,
7179 - 7180 Dol, lt brn, slty to rthy, micsuc to cryxl, p vug por, mostly anhy fld, no cut.
7180 - 7184 Dol, grn, micsuc, slty, anhy, glauc, dns, scat pyr, scat v p vug poro, no cut.

CUTTINGS

7184 - 7190 (vps) Dol, grn to grn-gy, micsuc to cryxl, pyr, anhy, glauc, tt.
7190 -- 7200 (vps) Dol, as abv, bcm brn to dk brn, scat p intgran poro, no show.
7200 - 7205 Sltst, grn to grn-gy, dol, glauc, w/str sh, grn, splty, pyr, and dol, grn-gy, slty, dns, tt.
7205 - 7215 Dol, crm to lt brn, cyxl to xl to suc, sli anhy, sli glauc, sdy, pyr, scat v p intgran poro, no show, w/intbd "ss", grn to grn wh, dol, slty, glauc.
7215 - 7220 Dol, as abv, crm to gy, dns, tt.
7220 - 7235 Dol, as abv, p to f p.p. vug poro, no show.
7235 - 7240 Dol, as abv, w/some dol, wh, suc, pyr, tr glauc, grdg to "ss" dol, v p poro, no show. Tr cht, clr.

CORE NO. 3 7240-71 Rec. 28'

7240 - 7245 Dol, crm to wh, cryxl to micsuc, tt, dns, lmy, sli anhy, scat p vug poro, no cut, no odor, no stn.
7245 - 7247 Dol, brn, micsuc, lmy, f to g p.p. poro, app 90% anhy filled, scat vugs, faint cut, no stn or odor, styl.
7247 - 7248 Dol, brn, micsuc, dns, lmy, tt.
7248 - 7250 Dol, brn, micsuc, sli anhy, lmy, p to f p.p. and vug poro, faint cut, no stn, sli odor.
7250 - 7251 Dol, brn to crm, micsuc, lmy, dns, tt, fos Brachs, scat small vugs, no show.
7251 - 7264 Dol, as abv, w/dis pyr, anhy filled frac, stylo, str p to f vug poro, no cut, no stn, noodor.

INTERLAKE (SIL.) 7264 FEET (-4226')

7264 - 7268 Dol, gy-brn, cryxl, lmy, pyr, anhy, dns, tt, grn-gy sh prtgs.

NOTE: Bottom 4" of core is dol, crm to brn, micsuc, lmy, f vug poro, no cut, odor, or stn; m/anhy-fld pores.

7268 - 7271 No recovery.

CUTTINGS

7271 - 7320 Dol, crm, micsuc, to suc, anhy, limy, str p to f vug poro, sli anhy fld, no show.
7320 - 7330 Dol, as abv, w/dol, gy-brn, cryxl, dns, lmy.
7330 - 7340 Dol, gy-brn to gy, cryxl to micsuc, lmy, dns, sli pyr.
7340 - 7350 Dol, as abv, w/tr sh, grn to grn-gy, wxy, sft, sdy.
7350 - 7360 Dol, as abv, p. p.p.poro, no show, w/tr sh, as abv.
7360 - 7364 Dol, as abv, p to f p.p. and vug poro, no show, w/sh as abv.

GUNTON DOL. (ORD.) 7364 FEET (-4331')

7364 - 7375 Dol, gy to brn, cryxl to micsuc to frag, shy, pyr, f vug poro where frag, no show, w/some sh, as abv.
7375 - 7380 Dol, gy to brn, micsuc to cryxl, shy, pyr, w/sh ptgs, grn, grn-gy, rd.
7380 - 7390 Dol & sh, as abv, bcm dk gr-brn, w/p vug poro, no show. Sh sli anhy.
7390 - 7395 Dol, crm to gy to dk gy-brn, micsuc to cryxl, some pnk anhy dol, with intbd sh, grn to rd to gy-grn, waxy. Some ss, v shy, gy, pyr, scat p. p.p. & vug poro in dol, no show.
7395 - 7405 Dol, dk brn to brn-gy to gy, mot gy, micsuc to cryxl, arg, dns, tt. Some ss, as abv.
7405 - 7415 Dol, as abv, crm to gy to brn-gy to dk brn, some ls, wh to crm, chky, dol, arg.
7415 - 7420 Dol, as abv, w/some "ss", gy, shy, dol, tt.
7420 - 7430 Dol, crm to brn to dk brn, suc to micsuc to cryxl, anhy, tt, w/some dol, as abv, and ss, as abv.
7430 - 7450 Dol, crm to brn, micsuc, lmy, sli arg, anhy incl, loc ls, dol, chky, tt.
7450 - 7460 Dol, as abv, bcm gy, mot, arg.
7460 - 7475 Ls, wh to gy-wh, chky, sli frag, arg, loc brn, mot gy. Some dol, as abv.
7475 - 7480 Ls, brn to gy, mot gy, frag to micxl, arg, loc gy-wh and chky, fos.
7480 - 7490 Ls, as abv, w/some sh, grn, rd, mar, olive, gy-grn (cavings?)

STONY MTN. SH. (ORD.) 7490' FEET (-4452')

7490 - 7495 Ls, as abv, w/some sh, dol, gy-grn to gy, subwxy, lmpy, sli brn mot; also sh,rd, grn, olive, mar, pyr.
7495 - 7510 Ls, gy to wh-gy, frag to xl, dns, tt, fos, mot gy, arg, loc dk brn, v shy, grdg to sh, gy to grn-gy, v lmy, lmpy.

CORE NO. 4 7510-7538 Rec. 26'

7510 - 7512 Sh, dk grn-gy, hd, lmy, dis pyr, sli fos.
7512 - 7518 Ls, dk grn-gy, pale grn mot, cryxl, hd, vy shy, pyr, sli fos (Brachs),w/str sh, as abv.
7518 - 7519 Ls & sh, as abv, loc c xl ls, v fos, anhy incl.
7519 - 7520 Sh, as abv.

RED RIVER FM. (ORD.) 7518 FEET (-4480')

7520 - 7527 Ls, brn to dk brn, cryxl, loc frag & fos, pyr, arg, dol, dns, brec, no shows, pos dead stain on frac, tt.
7527 - 7528 Ls, gy, mot brn, cryxl, fos, hd, dns, shy, arg, lam.
7528 - 7529 Dol,brn, frag, lmy, v fos, anhy, arg, dns, tt, sli odor.
7529 - 7531 Dol, brn, micxl, to cryxl, dns, tt, arg, dis pyr, sli anhy.
7531 - 7536 Ls, gy-brn, cryxl, arg, sli dol, dns, tt, sli odor, loc fos. (corals)
7536 - 7538 No recovery

CORE NO. 5 7538-7579 Entire core badly frac. Rec. 41'.

7538 - 7551 Ls, gy-brn, cryxl, arg, hd, sli dol, dns, tt, sli pyr, calc rpld fos, scat arg frac.
7551 - 7553 Ls, brn, cryxl, hd, dns, tt, arg lam & stylol.

7553 - 7554 Ls, as abv, f xl, arg, fos, frag.
7554 - 7555 Dol, gy to brn, mot, rthy to cryxl, w/rthy str & pods.
7555 - 7559 Dol, crm to brn, rthy to micsuc, lrg salt xl, arg, lmy, f. p.p. and vug poro, spty fluor, tastes salty, spty cut.
7559 - 7560 Ls, gy-brn, cryxl, dns, tt.
7560 - 7561 Dol, dk brn, cryxl, v hd, fos, salt filled vugs, sli arg.
7561 - 7565 Ls, br, cryxl, arg, dns, tt, scat salt xls.
7565 - 7566 Ls, as abv, v chty & fos.
7566 - 7579 Ls, brn to dk brn, cryxl, arg str, stylo w/carb mat, anhy incl, tastes salty, scat rthy dol blobs, loc fos.

CUTTINGS

7579 - 7585 Ls, dk brn to gy-brn, cryxl, arg, dns, tt, anhy incl.
7585 - 7595 Ls, crm, cryxl to rthy, arg, anhy incl, fos; some dol, brn, cryxl, dns, tt.
7595 - 7600 Dol, crm to brn, micsuc to cryxl, dns, tt, w/ls, frag to xl to suc, anhy, p vug poro, weak cut.
7600 - 7610 Ls, crm, frag to xl to suc, anhy, fos, p. p.p. & vug poro, faint cut, poor gas show, w/dol, crm, cryxl, dns, scat vugs, no show.
7610 - 7620 Ls & dol, as abv, pred dol, f to g cut, some vugs anhy filled, f stn.
7620 - 7650 Dol, crm to brn, cryxl to micsuc, arg, scat p.p.p. vug poro, occas. f cut & stn, stylo w/blk carb mat.
7650 - 7680 Dol as abv, less poro, no show, loc lmy.
7680 - 7690 Dol, as abv, w/ls, crm, cryxl, sli frag, sb chky, dol, p vug poro, no show.
7690 - 7700 Ls, crm to dk brn, cryxl to suc to mic suc, arg, chky, no show, sli anhy.
7700 - 7730 Ls, as abv, w/dol, brn, frag, micsuc to cryxl, p vug poro, no show.
7730 - 7870 Ls, crm to brn, chky, suc to cryxl, frag, arg, anhy, dol, scat p vug poro, no show, stylo w/carb mat. Some dol, as abv, lmy.
7870 - 7900 As abv, pred dol, micsuc, no show.
7900 - 7930 Dol, crm to brn, micsuc to suc, frag, sli arg, lmy, anhy incl, scat vugs, no show.
7930 - 7980 Ls, brn to crm, frag to suc, sli pyr, arg, sbchky, dol, anhy, dns, tt, some gy sh mot, grdg to lmy dol. Scat vugs in ls, no show.
7980 - 7995 (V.P.S.) Ls, as abv, v p samples, lost circulation at 7986'.
7995 - 8020 Ls, as abv, w/tr sh, grn to gy-grn, lmpy, splty, and abt ang, frac qtz frags, clr, and fltg, rd, fros sd gr.

WINNIPEG FORMATION (ORD.) 8020 FEET (-4982')

8020 - 8030 Ss, gy to gy-wh, v f gr, tt, dol, qtz, w/tr sh and qtz frag, as ab.
8030 - 8040 Ss, as abv, more abund, w/clr qtz frag, as abv.
8040 - 8045 Ss, gy to gy-wh, v f gr, qtz, dol, tt, w/sh, gy-grn, dk, slty to f sdy, lmpy, sli dol & pyr.
8045 - 8070 Ss & sh, as abv, w/incr sh, bcm dk gy-grn, sbwxy, plty.
8070 - 8110 Sh, grn to dk gy-grn, lmpy to plty, sbwxy, sli pyr, loc slty.
8110 - 8114 Sh, as abv, bcm gy-brn to brn, mot.

WINNIPEG SS. (ORD.) 8114 FEET (-5076')

8114 - 8122 Sh, as abv, w/tr ss, gy to wh, v f to m gr, tt, loc cly, qtz, pyr, sli calc.
8122 - 8124 As abv, w/incr ss.

CORE NO. 6 8124 - 8158 Rec. 33'

8124 - 8132 Ss, wh, v f to f gr, qtz, sli calc, scat grn & pnk gr, no shows, looks wtr wet, tastes salty, scat pyr incl and lam.
8132 - 8133 Ss, as abv, looks tt.
8133 - 8138 Ss, as abv, mot grn, tt.
8138 - 8139 Ss, as abv, m gr, tt.
8139 - 8140 Ss, as abv, porous, f to m gr, wh.
8140 - 8149 Ss, as abv, v f to f gr.
8149 - 8151 Ss, as abv, tt.
8151 - 8157 Ss, as abv, porous
8157 - 8158 No recovery.

CUTTINGS

8158 - 8230 (V.P.S.) Ss, wh, v f to f gr, scat m to c gr, rd, fros, qtz, pyr incl, tt, hd, dol cmt, some sec qtz.

8230 - 8280 (VPS) Ss, as abv, w/scat pnk & grn gr, bcm dirty and fri.

DEADWOOD FM. (CAMBRO-ORD) 8300 FEET (-5262')

8280 - 8320 Ss, wh, to gy-wh, v f to f gr, scat m to c gr, rd, fros, qtz, loc mot grn, dirty, sli fri & gyp (?), v sli dol, tr glauc, sli poro, no show, some sec. qtz.

8320 - 8330 Ss, as abv, incr glauc & dol cmt, bcm gy, no shows.

8330 - 8340 Ss, gy-wh to gy, mot tan to grn, v f to f gr, scat m to c gr, rd, fros, glauc, calc to dol, sli shy & pyr, w/grn, dol, sdy glauc sh ptg. No shows.

8340 - 8380 Ss, as abv, loc v dol, v glauc, tt, grdg to dol, v sdy, v glauc, c xl, wh to gy, w/sh ptg, as abv, bcm wxy,dk grn, pyr, non-glauc, sli dol, ss loc a grn sd.

8380 - 8420 Ss, as abv, intbd w/sh, as abv. Some ss, brn-wh to lt brn, dol, fn dis glauc.

8420 - 8450 Ss & sh, as abv. Ss, brn to gy, v f gr, fn dis glauc, dol, lam. Some dol, dk brn, sdy, glauc, dns, hd, xl. Ss loc a grn sd.

8450 - 8460 Ss, sh, & dol, as abv, w/tr ls, lt brn, c xl, glauc.

8460 - 8470 Ss, gy to lt brn, v f to f gr, glauc, calc, pyr, grdg loc to glauc, c xl ls; intbd w/sh, grn, glauc, mica, sbwxy. Some dol, dk brn, xl, sdy, glauc, dns, hd, tr qtz ss w/rd-brn stn, prob FeO. Ls may be frac fill.

8470 - 8500 As abv, w/some och yel gr in ss.

8500 - 8510 As abv, w/some ss w/och yel & rd-brn stn on qtz gr, and och yel gr.

8510 - 8540 Ss, grn-wh to gy to org-yel, v f to m gr, pyr, glauc, dol, tr rd to rd-brn ss; w/intbd sh, dk grn to grn-gy, mica sli pyr & glauc. Ss loc w/conc of rd & yel gr.

8540 - 8550 Ss, as abv, w/ls, wh, xl, glauc, dns, tt, sdy.

8550 - 8560 Ss, & ls, as abv, w/tr ss, wh, qtz, m to c gr, rd, fros, sec qtz.

8560 - 8580 Qtz ss, as abv, w/scat, v c gr, rd, fros.

8580 - 8620 (VPS) Qtz ss, as abv, lost circulation @ 8600.

8620 - 8640 Ss, wh to brn-wh, v f gr, qtz, scat m to c gr, rd, fros, tt.

8640 - 8670 (VPS) Ss, as abv, w/thn intbd sh, dk gy-grn, plty.

8670 - 8690 (VPS) Sh, dk gy-grn, fn mica, plty, sli pyr, w/ss, as abv.

8690 - 8710 As abv, w/tr dol, yel-brn, suc, dns, lmy.

8710 - 8720 Dol, wh to yel-brn, hem, xl, mot rd to grn, some ool (?) hem, and ss, as abv.

8720 - 8758 As abv, w/incr ss, qtz, hd.

PRE-CAMBRIAN 8758 FEET (-5720')

8758 - 8780 Ss, wh to brn-wh, m to c gr, scat v c gr, rd, fros, qtz, sec qtz, pyr, tt, smokey.

8780 - 8790 Ss, as abv, w/tr marble, wh to pnk-wh, xl, and lrg qtz frag, silv-grn, wrapped with grn mica (chlor or seri).

8790 - 8819 As abv, w/incr marble, pnk to rd spots, chlorite or sericite, qtz frag bcm grn.

TOTAL DEPTH 8819 FEET

SUMMARY OF DRILL STEM TESTS

D.S.T. NO. 1 7109-7184 Duperow Fm.

Open 15", SI 45", Open 3', SI 1'
Immed. weak blo, incr to fair blo in 1' 15", lasting balance of test.
Rec: 465' MSW
1170' SW
SIP 3140-2930, FP 195-690, HP 3955-3895.
BHT 160° F.

D.S.T. NO. 2 7221-7271 Duperow & Interlake Fms.

Open 15", SI 45", Open 3', SI 1'
Immed. good blo, incr to strong blo in 3", lasting balance of test.
Rec: 6055' SW
SIP 3270-3255, FP 570-2665, HP 4105-4070.
BHT 222° F.

D.S.T. NO. 3 7519-7579 Red River Fm.

Open 15", SI 45", Open 3', SI 1'
Immed strong blo, decr to weak blo by end of test.
Rec: 300' sli GWCM
270' MCSW
795' SW
SIP 3700-2845, FP 365-645, HP 4255-4180
BHT 226° F.

D.S.T. NO. 4 7590-7615 Red River Fm.
Open 15", SI 45", Open 3', SI 1'
Immed weak blo, incr to good blo in 45", lasting balance of test.
Rec. 312' MSW
1150' SW
SIP 3365-3255, FP 150-645, HP4330-4295.
BHT 231° F.

D.S.T. NO. 5 8120-8180 Winnipeg Ss.

Open 15", SI 45", Open 3', SI 1'
Immed v strong blo, died in 30"
Rec: 200' M
400' MSW
7450' SW
SIP 3535-3550, FP 3535-3535, HP 4610-4520
BHT 190° F.

ADMINISTRATIVE / SUNDRY REPORTS

Form 9

State of South Dakota

State Oil and Gas Board

STATE OF ~~SOUTH~~ NORTH DAKOTA }
County of WILLIAMS } ss.

WELL PLUGGING AFFIDAVIT

W.K. Neish AND

being first duly sworn, do depose and say the following is a true and correct statement of the details of the plugging of a certain well drilled for oil and gas.

(Indicate whether for oil, gas, water or other purposes)

known as the State of South Dakota "A" Number 1 and located
(Name, if any)

as follows: --- feet North; 660 feet South; --- feet East; 660 feet West of the 1/4 corner of the --- Quarter of the NE Quarter of the NW Quarter of Section 35, Township 18 North (North or ~~South~~) Range 4 East (East or ~~West~~), of the Black Hills Principal Meridian, Harding County, South Dakota.

Elevation of well above sea level is GL 3026 feet.

Elevation taken at KB 3038
(Derrick floor or Ground)

Total depth of well is 8819 feet. Date permit to drill issued April 18, 1961

Permit issued to TEXACO Inc.

Date drilling begun April 26, 1961

Date drilling completed June 15, 1961

Kind of drilling tools used Rotary

Date plugging begun June 15, 1961

Date plugging completed June 15, 1961

Lessor State of South Dakota Address Pierre, South Dakota

Lessee TEXACO Inc. Address Box 1432, Williston, No. Dak.

Drilling Contractor Gabe McCall Drlg. Co. Address Casper, Wyoming

DETAILS OF PLUGGING

Filled with ____ From ____ To ____ feet
(Rotary Mud, Cement, or Other Materials)

Kind of Plug Plug#1 - 50 sacks From 8220 To 8050 feet

Filled with Plug#2 - 45 sacks From 7658 To 7500 feet

Kind of Plug Plug#3 - 30 sacks From 7205 To 7100 feet

Filled with Plug#4 - 30 sacks From 5655 To 5550 feet

Kind of Plug Plug#5 - 45 sacks From 4100 To 3930 feet

Filled with Plug#6 - 90 sacks From 1050 To 840 feet

Kind of Plug Plug#7 - 10 sacks From Top of surface To ____ feet

Other details cemented w/pozmix cement with 4% gel.

If a producing well, give date and amount of last production

CASING RECORD

Size	PUT IN WELL Feet	Inches	PULLED OUT Feet	Inches	LEFT IN WELL Feet	Inches	Remarks
10-3/4	1002.71	---	---	---	1002.71	---	

TEXACO Inc.
(Signature of person, firm or corporation having custody or control of well)

Per W.K. Neish Dist. Sup't.

Address P.O. Box 1432

Williston, North Dakota
(Signature and title of party supervising plugging of well)

Address ~~P.O. Box~~ Box 126, Charlson, N. Dak.

Subscribed and sworn to before me this 19th day of June, A. D., 1961

My commission expires 11/7/64

John W. Barensheer
Notary Public

SDSOG(2):OBH:WKN

Plugging approved by
Allen F. Agnew
State Geologist
Dec. 7, 1961

STATE OIL AND GAS BOARD
PIERRE, SOUTH DAKOTA
DECEMBER 13, 1961

A meeting of the State Oil and Gas Board was held in the Secretary of State's office at 11:10 o'clock a.m., December 13, 1961.

PRESENT: A. C. Miller, Attorney General, Bernard Linn, Commissioner of Schools and Public Lands and Essie Wiedenman, Secretary of State.

Mrs. Wiedenman called the meeting to order.

Mrs. Wiedenman, Secretary of the Board, presented to the Board Notice of Intention to Abandon the State of South Dakota "A" No. 1 Well located on Section 35, Township 18N., Range 4E., Harding County, South Dakota, together with the Well Plugging Affidavit of said well. After a short discussion it was moved by Mr. Linn and seconded by Mr. Miller that the Well Plugging Affidavit and Notice of Intention to Abandon the State of South Dakota "A" No. 1 Well located 660 feet South; 1981.9 feet East from the Northwest corner of Section 35, Township 18 N., Range 4E., of the BHM, Harding County, South Dakota, be approved, and the liability under bond executed by the Travelers Indemnity Company, a Corporation of the State of Connecticut, as Surety and Texaco, Inc., of Denver, Colorado, as principal, in the amount of $3,000.00 conditioned upon compliance with the law and rules and regulations of the Oil and Gas Board concerning wells to be drilled in Harding County, South Dakota, be, and the same is hereby terminated and at an end from and after this date, and the bond of $3,000.00 given in connection with the drilling of said well, be released.

All voted "aye" and motion carried.

Form 5

State of South Dakota
State Oil and Gas Board

NOTICE OF INTENTION TO ABANDON WELL

(Oil and Gas) (Stratigraphic)

Williston, North ~~South~~ Dakota, June 19, 19 61

STATE OIL AND GAS BOARD

Pierre, South Dakota

In compliance with Chapter 153 Session Laws 1943 and all laws amendatory, relevant, or supplemental thereto and Rules and Regulations of the Oil and Gas Board, notice is hereby given that it is our intention to abandon well State of South Dakota "A"

(Name, if any)

Number 1, Section 35, Township 18N

Range 4E, Field Unnamed, County of Harding,

commencing work on the 15th day of June, 19 61.

The present condition of the well is as follows: DRY

1. Complete casing record. 1002.71' of 10-3/4"OD 40.5# Casing

2. Last produced ____ (Date) ____ (Net Oil) ____ (Gravity)

____ (Cut)

The proposed work is as follows:

Received Verbal approval from Mr. Earl Cox.

TEXACO Inc.
(Name of Operator)

By W. K. Neish
W.K. Neish
District Superintendent

SDDOG(3):OBH:WKN

CORRESPONDENCE

APR 28 1961

April 27, 1961

Mr. W. K. Neish
District Supt.
TEXACO Inc.
Box 1432
Williston, N. Dak.

Dear Mr. Neish:

Reference is made to the STATE OF SOUTH DAKOTA "A" WELL NO. 1 for which we are enclosing Permit to Drill, together with the minutes of the State Oil and Gas Board pertaining to this well and also your receipt for $25.00

Very sincerely,

(MRS.) ESSIE WIEDENMAN
Secretary of State

EW/ir
Enc-
CC- Dr. Agnew
State Geologist

COPY

SOUTH DAKOTA
STATE GEOLOGICAL SURVEY
UNION BUILDING
ON THE CAMPUS OF THE STATE UNIVERSITY
VERMILLION

ALLEN F. AGNEW, STATE GEOLOGIST
AND DIRECTOR
TEL. MARKET 4-4471

APR 27 1961

Belle F.
April 26, 1961
1:30 P.M.

Dear Allen,

Mr. N1 D. Yoast, Drilling foreman for Texaco called. They are ready to start making hole but the permit has not been granted due to the bond not being received.

I told Yoast XXX he could set surface but not to drill out below it until the permit had been granted. They plan on spudding tonite at 8:00 PM and should be ready to set surface at about 8:00 in the morning.

Will set 1000 feet of 10 3/4 inch surface and use 560 sacks.

Earl

APR 25 1961

Box 208
Belle Fourche, So Dakota
April 24, 1961

Mr. Ray Harrison
Cardinal Drilling Co
420 4th St.
Bismarck, North Dakota

Dear Mr. Harrison:

The State Geologist has asked me to send you the name of the operator on the Texaco #A-1 State, NENW-35-18N-4E, Harding County, South Dakota.

The test will be drilled by the Gabe McCall Drilling Co., 117 N. Beech, Box 2068, Casper, Wyoming. The pusher is Clayton Williams; he is staying at the Cactus Motel, Room 2, Buffalo, So. Dakota.

The location will probably be spudded April 26th, and the drilling time is estimated by Williams as 40 days.

Sincerely,

Earl Cox
Geological Engineer

Texaco #A-1 State
Harding Co.

APR 25 1961

Belle Fourche, So. Dak.
April 24, 1961

Mr. J. Terry Sherman
Shell Oil Company
P.O. Box 987
Bismarck, North Dakota

Dear Terry,

As requested when I saw you April 5th concerning new locations:

McCall Drilling Company is rigging up on the Texaco #A-1 State, NeNw-35-18N-4E, Harding County, So Dak. Will probably spud April 26 on this 8800 foot Deadwood test.

Sincerely,

Earl Cox

Earl Cox
Geological Engineer

APR-8 1961

SOUTH DAKOTA
STATE GEOLOGICAL SURVEY

UNION BUILDING
ON THE CAMPUS OF THE STATE UNIVERSITY
VERMILLION

ALLEN F. AGNEW, STATE GEOLOGIST
AND DIRECTOR
TEL. MARKET 4-4471

Belle Fourche, S. Dak.
April 7, 1961

Dear Allen

The Texaco land man at the School land sale April 5th told me that they would spud in Harding County in about a month. They are waiting for the drill rig to get free in North Dakota.

Photostat on file

The mud pits are filled and the marker is in place at the Schlaikjer-Clarkson #1 Clarkson. Slim Gardner owns the surface and I will talk to him before I send in the scout sheet on this location. He is suposed to be back home tonite so will call him then.

Sincerely,

Earl

Earl Cox

(4)

FEB 23 1961

SOUTH DAKOTA
STATE GEOLOGICAL SURVEY
UNION BUILDING
ON THE CAMPUS OF THE STATE UNIVERSITY
VERMILLION

ALLEN F. AGNEW, STATE GEOLOGIST
AND DIRECTOR
TEL. MARKET 4-4471

Belle Fourche, So. Dak.
Feb. 21, 1961

Dear Allen,

Yesterday I drove to the Buffalo Field. The pits on the Signal #1 State were not filled but a local rancher, Lyle Miller, will fill them at an early date.

I could not find any activity at the ~~proposed~~ reported Texaco location. Pits had not been dug.

Leroy Clarkson called and wanted to know what was required before the bond could be released on the Schlaikjer-Clarkson #1 Clarkson. He plans to have the pits filled soon. I guess he has decided not to drill out the plugs.

Larry Menke said that Shell was getting ready to permanently plug the Shell # 34-29 Johnson and the Shell #32-32 Travers. Due to an oversight the Shell 32-32 Travers has already had the bond released. The bond is still in effect on the Shell 34-29 Johnson. Menke said headquarters will gontact you prior to plugging.

Bill Waller, pumper, said Herb Clarkson is talking about a recompletion of the Cardinal-Sun-Clarkson #1 State. It is making about 15 b/d.

Harriet Levi, of Rinehart's, said she would be glad to send in reports ~~XXXXXX~~ over our byline. Thought you might want to send her your resume of 1960 activity in the State.

Bill Carland, agent for C & NW RR at Rapid said his people at Chicago would like maps of the gypsum deposit at Buffalo Gap and also the names of the mineral owners. I told him I would keep in touch with him as the work progresed. I may be wrong but this sounds like someone in C&NW has $ signs in their eyes.

If you bring sample envelopes and Darton's Folios to Pierre Feb. 26th I will be happy to bring them back to Belle. Will see you at that time.

Sincerely,

Earl Cox

Earl Cox

2-22-61 – I wrote this yesterday but neglected to put it in the letter I sent you.

MR R P Harmon said he had talked to Bob Olds drilling Contractor yesterday. Olds told him he was making a bit on a location about 10 miles North of Belle Fourche – no other info Available E C

SOUTH DAKOTA
STATE GEOLOGICAL SURVEY
UNION BUILDING
ON THE CAMPUS OF THE STATE UNIVERSITY
VERMILLION

ALLEN F. AGNEW, STATE GEOLOGIST
AND DIRECTOR
TEL. MARKET 4-4471

Belle Fourche
1-30-61

Dear Allen,

Enclosed is the headlight adjustment certificate for Jeep S-1637.

The samples of the Sparks #1 Cornelison have been washed and I will bring your set to Pierre Feb. 5th. A cut will be given SDSM. I have 640 - 735'. I think ~~the~~ Your file Shows Gries picked up the 0 - 640' samples.

The samples of the Fruitdale city well are washed. I thought I would keep the Survey set here for the present at least. A cut will be given SDSM. I would appreciate you bringing sample envelopes to Pierre 2-5th if you have extra ones.

On 1-24 I was in Buffalo and checked the proposed Texaco location, but could find nothing on the ground. The locals had heard rumors of a test but that was all.

Dr. Gries loaned me the Belle Fourche, Aladdin, and Sundance Folios. I have arranged a light under glass to copy the geology on XXX to the County maps for the water study.

Makeeff called 1-20 with the info that he would let me know when he was ready to plug the Burrows well - but had heard nothing since.

I talked to Carl Schaffer, the landlord, today. He said taxes were such that he was going to raise the rent of the office next door which is now renting for $25. and he felt he could not drop our rent to $25. He agrees to $28. per month rent if we take care of the light bill. The light bill has been paid to January 11. The charges for the last three months were:

Oct. 11 - Nov. 11	$2.04
Nov. 11 - Dec. 11	$10.15
Dec. 11 - Jan. 11	$ 7.40
	$19.59

Schaffer felt we should reemburse him for the part of these bills over and above XXXXXXXXXX two dollars per month, or $13.59. I feel the guy should have hollered back in November if he was hurt so bad, instead of waiting until now. However, as this takes care of the proposed rent increase it probably is better than we can duplicate elsewhere. If you OK the above you will probably want to send a letter to Schaffer to that effect.

Sincerely,

Earl Cox

Earl Cox
Geological Engineer

28
F
M
A
M

DEC 6 1961

TEXACO
INC.

PETROLEUM PRODUCTS

P.O. Box 1432
Williston, North Dakota
December 4, 1961

STATE "A" WELL #1
NE-NW SEC.35-T18N-4E
HARDING COUNTY, SO.DAK.

Mr. Allen F. Agnew
State Geologist
Vermillion, South Dakota

Dear Sir:

We are indeed sorry that such a mix-up has occurred in getting the proper marker set on the subject well.

We had included this service in our Contract and had been notified the marker had been changed.

Mr. N.D. Yoast, our drilling foreman residing in Watford City, North Dakota, personally changed the marker to read the NE¼ NW¼ Sec.35-T18N-R4E. Therefore, I am again asking that the Bond be released.

Yours very truly,

TEXACO Inc.
Domestic Producing Dept.

W.K. Neish

W.K. Neish
District Superintendent

WKN/kf

changed 12/1/61

November 8, 1961

Mr. W. K. Neish
District Superintendent
Domestic Producing Dept.
Texaco, Inc.
P.O. Box 1432
Williston, North Dakota

Dear Mr. Neish,

Reference is made to the Texaco #1 State A oil test, in the NE¼NW¼ sec. 35, T. 18 N., R. 4 E., Harding County, South Dakota.

In your letter of October 26, 1961, you state that the location on the marker pipe has been corrected to read NW¼NW¼ instead of SE¼NW¼, and you ask that the Bond be released on this well.

Because this location had been made such an issue by us in our previous correspondence, concerning the filling of the pits, I had Earl Cox scout the location once more, before we recommend release of the Bond. To our great surprise, he found that the location had not been changed from SE¼NW¼. Please note that the correct location (as is correctly given in your plugging papers, filed June 19, 1961), is NE¼NW¼.

I would like to point out that Mr. Cox has made three 150-mile "dry run" trips to this location for this purpose, on August 1, October 13, and November 2. Although this type of error, on the marker pipe, may seem insignificant to some, it has now become the principle of the thing, and I would suggest that you might likewise be interested in checking into this, because you may have already paid for a service that was not performed by a contractor.

Very truly yours,

Allen F. Agnew
State Geologist

AFA/bb

cc - Mrs. Essie Wiedenman, Secretary of State
Mr. Earl Cox, Belle Fourche

NOV - 6 1961

SOUTH DAKOTA
STATE GEOLOGICAL SURVEY
UNION BUILDING
ON THE CAMPUS OF THE STATE UNIVERSITY
VERMILLION

ALLEN F. AGNEW, STATE GEOLOGIST
AND DIRECTOR
TEL. MARKET 4-4471

Belle Fourche, South Dakota
November 2, 1961

Dear Allen,

Re: Texaco #1 State
NENW-35-18N-4E.
Harding Co., So. Dak.

I have received the copy of the letter from W. K. Neish in which he states the location on the marker pipe has been corrected to read NW/4 NW/4. The correct description is NE/4 NW/4.

Today I scouted the location. The description still reads SE/4 NW/4. It has not been corrected and is still incorrect.

Neish probably wrote the letter in good faith. I would guess that Texaco arranged to have the location corrected by someone like Peters of Bowman, North Dakota and the letter was written after it was reported that the work had been done.

Maybe Texaco will reemburse us for these 150 mile 'dry runs'?

Sincerely,

Earl Cox

Earl Cox

Cox trip to check surf marker [wrote ND 6/26/61 abt incorrect loc (WPB forms 6/19/61 Rec'd OK)]
8/1/61
10/13/61
11/2/61

Oil & Gas

October 30, 1961

Mr. Earl J. Cox
State Geological Survey
Box 208
Belle Fourche, South Dakota

Dear Earl,

I am enclosing a photocopy of a letter that was just received from Texaco. Because of the trouble that we havehad on this hole, do you think it wise to scout it again before we release the Bond? I will take your suggestion, whichever way you decide.

Tip received a telephone call from a fellow with El Paso in Casper, who was asking about the requirements for entry on State land for drilling their shallow holes up in Harding County. This fellow in Casper apparently had not realized that the application forms, etc., had been filed with Essie about two weeks ago, and that even a press release had been turned loose on it. Thus, it appears as if they will be going very shortly.

With regard to the report from Harriet Levi in Bismarck that Cities Service was drilling core holes near Pierre, I called Bob Hipple and all he could run down was the name of an outfit that was new in town. When I talked to them, I found that they were laying mats against the dam at Oahe. They told me that there was some drilling going on in conjunction with the Corps of Engineers work there at Oahe, but that they did not know of any other. I will try to get in touch with the Cities Service office in Casper, to see what information they can give us. I just did — Visit Cities Service, & they had n't heard of it.

Tip, Fred, and I are headed for the GSA meeting in Cincinnati. We will be back November 5. I plan to come out to Rapid early in the week of November 13-15, and will look forward to seeing you then.

Sincerely yours,

Allen

Allen F. Agnew
State Geologist

AFA/bb

Enc.

OCT 2 8 1961

TEXACO
INC.

PETROLEUM PRODUCTS

P.O. Box 1432
Williston, North Dakota
October 26, 1961

STATE "A" WELL NO.1
NE-NW SEC.35-T18N-R4E
HARDING COUNTY, SOUTH DAKOTA

Mr. Allen F. Agnew
State Geologist
Vermillion, South Dakota

Dear Sir:

Please be advised that the location on the marker pipe has been corrected to read the NW/4 NW/4 instead of the SE/4 NW/4. Therefore we are asking that the Bond be released on this well.

Yours very truly,

TEXACO Inc.
Domestic Producing Dept.

W.K. Neish

W.K. Neish
District Superintendent

WKN/kf

October 17, 1961

Mr. K. S. Harding
District Geologist
Texaco, Inc.
Professional Building
Bismarck, North Dakota

Dear Mr. Harding,

Reference is made to the Texaco #A-1 State oil test in Sec. 35, T. 18 N., R. 4 E., Harding County, South Dakota.

Earl Cox scouted this location on October 13, 1961, and found that the mud pits had been filled and that the surface has been restored.

However, as had been pointed out by Mr. Cox to Mr. N. D. Yoast, the marker pipe shows an incorrect location on the hole. The marker pipe shows SE¼NW¼, and it should be NE¼NW¼. Mr. Cox was told that this incorrect location on the marker pipe would be taken care of at the same time as the filling of the pits, as it would be a relatively small matter to weld a correct letter on the pipe.

Until this is done, we cannot recommend that the Bond be released on this well.

Very truly yours,

Allen F. Agnew
State Geologist

AFA/bb

cc - Mr. Earl Cox, State Geological Survey, Belle Fourche
Mrs. Essie Wiedeman, Secretary of State, Pierre

AUG 2 9 1961

TEXACO
INC.

PETROLEUM PRODUCTS

DOMESTIC PRODUCING DEPARTMENT
DENVER DIVISION

Post Office Box 1396
Bismarck, North Dakota
August 28, 1961

Mr. Allen F. Agnew
State Geologist
South Dakota Geological Survey
Vermillion, South Dakota

Dear Allen:

Enclosed herewith is a copy of the sample log of the Texaco State "A" No. 1, NE NW Section 35-18N-4E.

Texaco Inc. furnishes the commercial sample services with sample cuts which other companies can rent. We consider the sample descriptions as run by our own geologists as confidential. We, therefore, respectfully request that the Survey use this sample log for their own purposes but not permit it to be copied by other oil company personnel.

There is a set of the samples on file with the American Stratigraphic Company, Casper, Wyoming.

Yours very truly,

Bill

William R. Bolenbaugh

WRB:mdh
Enc.

AUG - 2 1961

Belle Fourche, South Dakota
August 1, 1961

Mr. N. D. Yoast
Drilling Foreman
Texaco, Inc.
Professional Bld.
Bismarck, North Dakota

Re: Texaco #A-1 State
NENW 35-18N-4E.
Harding Co., So. Dak.
oil test

Dear Mr. Yoast:

As requested during our recent telephone conversation, I have examined the location of the above oil test.

The ditches which were dug to allow the mud to disperse and were then filled in have settled as much as 1½ feet in places, and could be a hazard. The surface has been left in a very rough condition and has broken cable, boards, tin, etc., on it.

It is felt that this Fall after the ditches have settled, a blade could fill them and also smooth the surface. The junk on the surface could be put in the existing low spots and dirt bladed over it.

After the blade has worked over the location and the description on the marker pipe corrected the bond can be released.

Sincerely,

Earl Cox

Earl Cox
Geological Engineer

SOUTH DAKOTA
STATE GEOLOGICAL SURVEY
UNION BUILDING
ON THE CAMPUS OF THE STATE UNIVERSITY
VERMILLION

ALLEN F. AGNEW, STATE GEOLOGIST
AND DIRECTOR
TEL. MARKET 4-4471

JUL 7 1961

Belle Fourche, South Dakota
July 6, 1961

Dear Allen,

As of today, Shell's new production foremen for the Buffalo Field is John Breen. Breen will ~~continue to~~ live in Baker, Montana; the Shell phone number in Baker is 474.

Larry Menke, who Breen replaced, will move to either Casper or Sheridan, Wyoming as Shell's production foreman for the Powder River Basin. This is a nice advancement for Menke as Shell has considerable production in the Basin. Some of the wells make up to 900 b/d.

Send pickup to Cox offc Vermillion

The 58 core boxes from the recent Texaco test are stored in the mobile Shell office in Belle Fourche. This office will be pulled to Wyoming in the next month or two at the time Menke moves over. I will store the cores in my basement unless the Survey pickup can be used to take them to Vermillion.

You may wish to write J. M. Garlick, Production Manager at Billings, and mention the excellent cooperation we have gotten from Menke during the more than two years that he was production foremen for the Buffalo Field.

Sincerely,

Earl Cox

Earl Cox

JUN 27 1961

Belle Fourche, South Dakota
June 26, 1961

Mr. N. D. Yoast
Engineer
Texaco, Inc.
Professional Bldg.
Bismarck, N. Dakota

Re: Texaco #A-1 State oil test
NENW-35-18N-4E.
Harding County, So. Dak.

Dear Mr. Yoast:

On June 24th, I stopped by the Texaco #A-1 State location in Harding County, South Dakota. The surface plug and marker pipe were in place and the mud pit had been fenced.

Unfortunately the marker pipe has the wrong location on it. The pipe shows the location as the SENW-35 instead of the correct location of NENW-35.

I bring this to your attention so it can be corrected at a time most convenient to you.

Sincerely,

Earl Cox

Earl Cox
Geological Engineer

JUN 26 1961

STATE OF SOUTH DAKOTA
DEPARTMENT OF STATE
PIERRE

June 23, 1961

ESSIE WIEDENMAN
SECRETARY OF STATE

ALMA LARSON
ASSISTANT SECRETARY

Dr. Allen F. Agnew
State Geologist
"U" of South Dakota
Vermillion, South Dakota

Dear Dr. Agnew:

Reference: State of South Dakota "A" Well #1, Section 35, T. 18 N., R. 4 E., Harding County, South Dakota.

We are enclosing herewith Notice of Intention to Abandon Well together with two copies of the Well Plugging Affidavit.

Very sincerely,

Essie Wiedenman

ESSIE WIEDENMAN
SECRETARY OF STATE
SECRETARY STATE OIL
AND GAS BOARD

EW/ir
Enc-

File No 313

MAY 3 1961

SOUTH DAKOTA
STATE GEOLOGICAL SURVEY
UNION BUILDING
ON THE CAMPUS OF THE STATE UNIVERSITY
VERMILLION

ALLEN F. AGNEW, STATE GEOLOGIST AND DIRECTOR
TEL. MARKET 4-4471

Belle Fourche, S. Dak.
May 2, 1961

Dear Allen

I talked to Hollingsworth yesterday. He has been getting a package together that he thinks Amerada will be interested in. It covers the high as shown on Bruno's D & G Map # 9 in T43N, R14E.

He is writing today to ask for an extension on the #1 Martinson permit. It had slipped his mind that the permit had run out. If an extension is not granted the bond should not be released until the mud pits are filled. He thinks he can spot in one month.

Menke says Herb and Leroy Clarkson have just completed the purchase of Schlaikier's interests in the Buffalo Field. Bill Waller XXXX has been hired to pump the wells.

R. Zimmerman was in this morning and said that Texaxo had cored 47 feet of Newcastle and it was wet so will not DST. Zimmerman is a Philip scout. Will send details on next scout sheet. Below are the planned cores and tests. If cores have no shows the DSTs will be eliminated.

pending

Jurassic	4100 est.		1 DST
Minnelusa	5510	1 core	2 DST
Madison	6050		1 DST
Miss Can 3	6290	1 core	1DST
Duperow	7080	1 core	1 DST
Interlake	7210	1 core	1 DST
Stony Mt.	7350		1 DST
Red River	7500	2 cores	3 DST
Winnepeg	8000	1 core	1DST
Deadwood	8400	1 core	1 DST

Will run e log and microlog at 4600 before salting up mud.

Sparks #1 Cornelison: Nothing had been done at the location when I was there yesterday. I called Dodgin today. Sparks had called him and was all shook up about Walt Weygint's letter, and Sparks was in the process of getting a Denver group to complete the well and to drill on the location ½ mile south.

Vi wrote and wanted to know how the Indian Maiden was that I was always writing about. I was a little shocked at this XXXXXX invasion of privacy, but truthfully, the situation has lots of good 'points' but only one was perfect. Actually this is pretty good considering the age and awl.

Tsk, tsk, Vi

Sincerely,
Earl Cox
Earl Cox
Geologist

SURETY

DEC 22 1961

December 20, 1961

Travelers Indemnity Company
Hartford, Connecticut

Ref: State of South Dakota
"A" No. 1 Well,
Texaco, Inc.
Sec.35,T18N.,R4E,Harding Co.

Gentlemen:

Enclosed please find copy of the minutes as recorded in the December 13, 1961 meeting of the State Oil and Gas Board, Pierre, South Dakota.

Release of bond in the amount of $3,000.00 is hereby authorized

Very sincerely,

ESSIE WIEDENMAN
Secretary of State
Secretary State Oil
and Gas Board

EW/ir
Enc-
CC- Dr. Agnew
State Geologist
Earl Cox
Thomas Ripke
Roger Stearns

COPY

DEC 22 1961

December 20, 1961

Mr. W. K. Neish
P.O. Box 1432
Williston, North Dakota

Ref: State of South Dakota
"A" No. 1 Well,
Texaco, Inc.
Sec.35, T18N.,R4E

Dear Mr. Neish:

Enclosed please find copy of the minutes as recorded in the December 13, 1961 meeting of the State Oil and Gas Board, Pierre, South Dakota.

The Surety Company has been duly authorized to release the bond in this instance.

Wishing a very Happy Holiday Season to you and yours, I am

Very sincerely,

E. W.

ESSIE WIEDENMAN
Secretary of State
Secretary State Oil and Gas Board

EW/ir
CC- Dr. Agnew
Earl Cox
Thomas Ripke
Roger Stearns

How's the weather down there?
Have you moved? W.

COPY

December 8, 1961

Mrs. Essie Wiedenman
Secretary of State
Secretary, Oil and Gas Board
State Capitol
Pierre, South Dakota

Dear Mrs. Wiedenman,

Reference is made to the Texaco #1 State A oil test in the NE¼NW¼ sec. 35, T. 18 N., R. 4 E., Harding County, South Dakota. I have been delaying recommending that the Bond be released on this well until the location has been corrected on the marker, as you will know from my letter of November 8, 1961, to Mr. W. K. Neish.

A letter from Mr. Neish on December 4, 1961, states that his drilling foreman in Watford City, North Dakota personally corrected the marker, and Earl Cox told me at the recent meeting of the Interstate Oil Compact Commission in Denver on December 4 that this had been accomplished.

Therefore, I am recommending that the Bond be released on this well. I am enclosing the original copy of the plugging form, as approved by me.

Sincerely yours,

Allen

Allen F. Agnew
State Geologist

AFA/bb

Enc.

cc - Mr. W. K. Neish
Mr. Earl J. Cox

MISCELLANEOUS

10-7-61

Ed Peters (called)

Bowman, N Dak.

Texaco well

contractor.

Will call Cox, then

move in + clean up

loc,

9-1-61

Pits not filled

TEXACO WELL DRILLING CAREFULLY AHEAD

The Texaco test well southwest of Buffalo was reported drilling carefully ahead the first of the week. Coring through all possible oil-bearing formations had been planned. Reports at the weekend indicated that a change to salt water mud had been made at about 4600 feet. The well was "mudded up" just below surface casing.

Buffalo Times Herald

May 11 - 1961

4-27-61

APR 28 1961

Allen:

The Sec of State called the texaco permit was granted 4-26-61

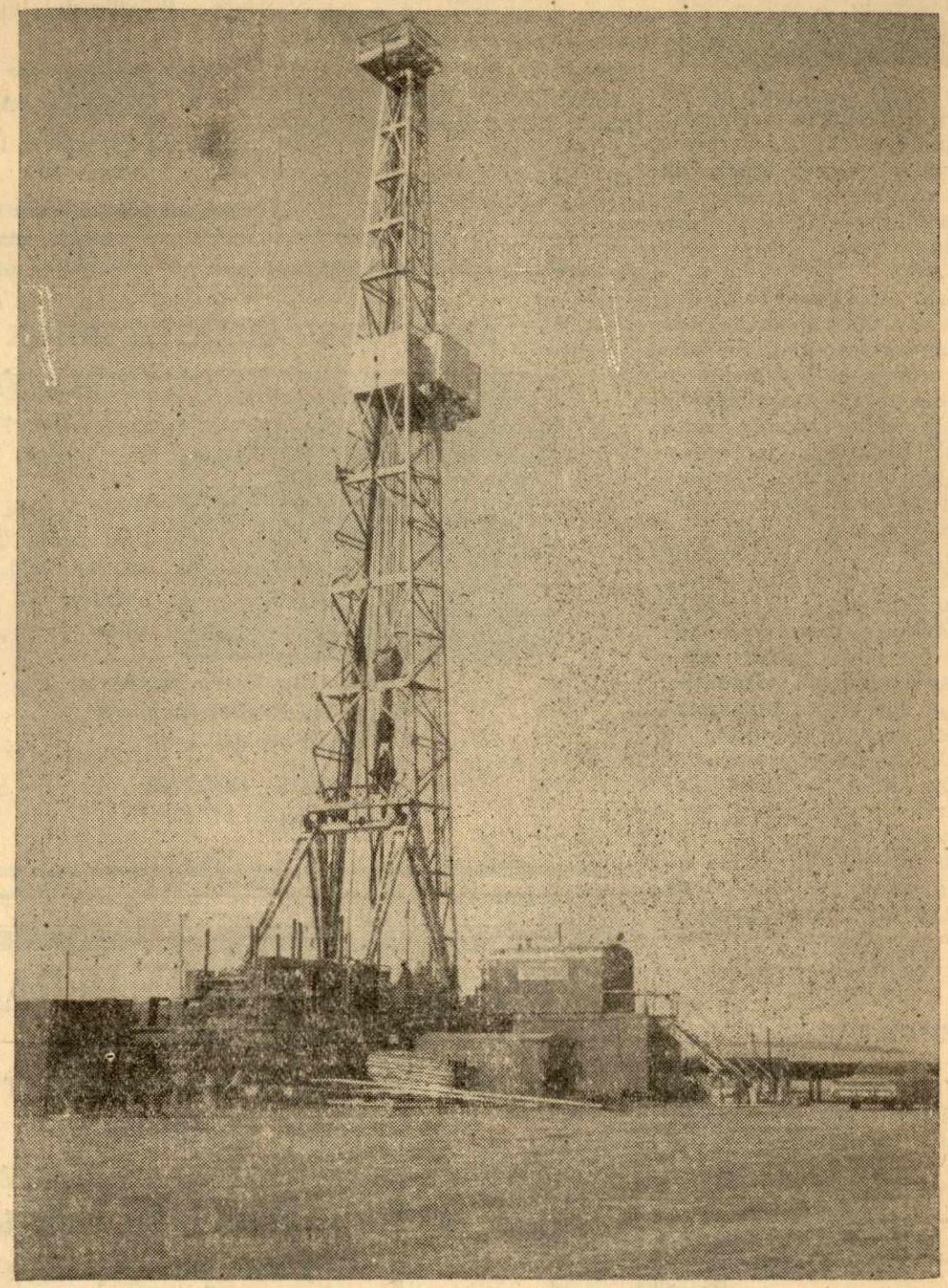
Earl.

BUFFALO TIM

CONSOLIDATION OF THE BUFFALO TI

VOLUME LII Buffalo Times Herald-4-27-61 BUFFALO, SOUTH DAKOTA, THU

TEXACO WILDCAT SPUDDED IN SOUTHWEST OF TOWN



Gabe McCall Drilling Company's Rig No. 3 was rigged up and drilling Thursday morning on Texaco, Inc.'s Texaco A-1 State wildcat oil test about six and one-hahlf miles south and two and three-fourths miles west of Buffalo. The well is located in NENW Section 35, Township 18 N., Range 4 E. The wildcat is the first drilling activity in Harding county in several months and the first in the area being tested. Halliburton trucks were standing by Thursday to cement surface casing.

Texaco A-1 State
Harding County
is going.

Spudded 4/26/61
10¾" surface casing
at 1016 KB

300 sacks
w.o.c.

(Harriet Leni phoned
4/28/61 with this
information.)

Buffalo Times-Herald

Feb. 2, 1961

Oil Wells
Texaco 1 State A-1
Harding Co.

death Buffalo 2-2-61

TEXACO TEST SEEN AS FEATURE OF OPERATIONS

The coming oil test by Texaco Inc. south of Buffalo was regarded as a feature of drilling operations in the Rock Mountain High Plains states area last week. as the first wildcat announced for South Dakota in several months.

Petroleum Information, an oil industry publication, calls attention to the recently announced test, the Texaco 1 State-A well, will be a test of the Red River formation at about 7,800 feet. The location is about 15½ miles south of Red River production in the Buffalo Field, and is located about 6½ miles south and 2¾ miles west of Buffalo.

Buffalo Times-Herald - Jan. 26, 1961

Buffalo Times Herald 1-26-61

TEXACO DRLILING LOCATION REPORTED SOUTH OF HERE

Location for an oil test to be drilled by Texaco, Inc. south of Buffalo was reported to the Buffalo Times-Herald Tuesday afternoon.

The well will be known as the Texaco A-1 State, and is to be located in NENW Section 35, T. 18N, R. 4E, Harding county, about six and a half miles south and two and three-fourths miles west of Buffalo.

Rinehart 1-17-61.
Texaco #A-1 State
NENW 35-18N-4E
7800 RR TD
20 mi S. of Buffalo